



College AND UNIVERSITY Business

JUNE 1949: Enrollment Trends and Budget ★ Can a School Farm Be Profitable ★ Fully Effective Alumni ★ Centralized Record Keeping Service ★ Training Maintenance Men ★ Radio Station Acoustics



BETTER UTILIZATION OF PURCHASING TECHNICS

HENRY B. ABBETT

Purchasing Agent, Purdue University

THERE HAVE DEVELOPED IN THE FIELD OF PURCHASING, even though its life as an administrative function is comparatively short, certain well recognized and accepted methods or technics. It is well agreed that the extent to which these are practiced determines purchasing efficiency.

The improvement in the technics of this function has been healthy and quite rapid, but since the beginning of World War II and until recently certain of the accepted technics have been badly neglected. The responsibility for this neglect can be attributed to causes other than professional. A demand for maximum production regardless of cost, an unbalanced condition between supply and demand, an unprecedented industrial and commercial growth, and the restrictions of governmental regulations placed a different emphasis upon this function. Established procedures of competitive buying and product testing were slighted, and in many instances they were completely ignored in the struggle to satisfy seemingly insatiable needs. With the advent of war, experienced buyers reluctantly accepted the changes, inexperienced and inadequately trained or equipped personnel filled the vacancies caused by the war effort and the need for expansion, and the work load left little time for constructive professional development.

Certainly this is not the time to devalue the product of a great effort for world security, but rather the time for those of us who are engaged in purchasing to take an inventory of the professional and personal requirements of such a specialized job in order that our work may continue to hold its position of distinction and responsibility and in order that we may increase our personal effectiveness. It is time for self-appraisal and reorientation.

To improve, we certainly do not need to dream of new technics, but rather to dust off and put into use the well established ones. Much has been said and written already about the accepted technics, and anyone who has been prepared for a buying position

should have more than a passing acquaintance, or anyone who is a novice should find ample source material. In the final analysis, it is the skill with which we analyze our institution's needs, prepare and use specifications, test products for control of quality, and use competitive technics that will determine our proficiency and our usefulness to our institutions.

One of the carry-overs from the war effort seems to be a willingness to rely upon the efforts of others rather than upon one's self. Indeed, proficiency cannot be gained by either dependency or reliance upon others. Our proficiency is achieved in proportion to the attention and the refinement given to any endeavor. To accept carelessly another person's version of the right price or a satisfactory quality or the best source is contrary to good purchasing practice. Frankly, then, the problem of successful buying is reduced to a personal responsibility. Our association with others may broaden our viewpoint and strengthen our conviction, yet in the final analysis our success comes through our effort for self-improvement.

Without the critical and analytical approach a person engaged in purchasing would be a mere figure-head. Therefore, the one essential thing we must all have is an inquiring mind. If we seek new technics to improve our work, here then is an unexplored field.

The inquiring mind is not necessarily a gift of nature but rather a method of approach—a scientific, analytical process. It can be cultivated. If we reduce our approach to such a process, questioning and challenging the elements of each transaction and each problem, we can raise our professional standards and increase our personal effectiveness. No one has more clearly pointed out this Socratic method than Kipling, who wrote so effectively from his own experience:

"I keep six honest serving men
(They taught me all I know)
Their names are What and Why and When
and How and Where and Who."

College

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W. E. Park

PRESIDENT WILLIAM E. PARK of the Northfield Schools, whose article on school farms appears on p. 12, is a trustee of Vassar College and a member of both the Massachusetts Board of Collegiate Authority and the State Board of Education. He holds D.D. degrees from both Middlebury and Williams colleges, and for five years served as minister in Congregational and Presbyterian churches in

New York State. Dr. Park has written two books: "Narrow Is the Way" and "The Quest for Inner Peace."

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Harm Harms

HARM HARMS, executive secretary of the Conservatory of Music and director of business education, Capital University, Columbus, Ohio, writes on handling student concert tours (p. 23) from considerable experience. In arranging such trips, as well as in booking concert and stage artists for the university, he draws on his own wide travel experience and his business education past. He was head of the

business department at Hebron College for three years and was instructor in business education and finance manager of athletics at John Adams High School, Cleveland.

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J. F. Wight

J. F. WIGHT, janitor foreman of Oberlin College, has degrees in business administration from Oberlin School of Commerce and Fenn College. If janitor foreman, from which post he writes on in-service training for custodians on p. 29, does not sound like an imposing title, consider the fact that he rose to it after eight years as purchasing agent and office manager at Oberlin College, before which he was an

assistant in the buildings and grounds office and a cost accountant. A Rotarian, Mr. Wight also is a golf and volleyball enthusiast.

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W. H. Miller

WILLIAM H. MILLER, since 1947 director of dining halls at Virginia Polytechnic Institute, has a degree in hotel administration from Cornell. His food service knowledge (p. 31) also is practical, as he was director of food and housing at Stanford for three years, and his business experience adds up to six years, including a stretch as business manager of New York Medical College, as director of buildings and

grounds at Bard College, and as assistant director of dormitories at Northwestern University. Two years were spent afloat with the U.S. Navy, his tour of wartime duty taking him to the Philippines, Saipan, Okinawa, China and Japan. His favorite recreations are fishing and bowling. . . . FREDERIC G. KETTELKAMP, who suggests how to make alumni fully effective (p. 7), heads the alumni office at Washington University. Before 1947, when he took on that task, he had been assistant to the dean of men and director of the office of student enrollment at his alma mater. He is active in fraternity work, and his hobby is photography.

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Looking Forward

In Quest of Reason

THE DISTURBING ASPECT OF THE PRESENT DRIVE FOR federal aid to higher education is the eagerness with which the idea is being pursued. There seems to be more concern in getting the money and spending it than in attempting to determine its need and the procedure to be followed in allocating the funds.

At one extreme you have the emotional appeal of those who cry out, "Are you willing to deny capable youth the opportunity of a college education because of economic limitations?" and, at the other extreme, those who seriously question whether everybody is capable of profiting from a college education, even if available without limitations.

Those who campaign for federal funds for higher education have predicated its handling and distribution on a basis comparable to the present technics of the Veterans Administration or to the wartime A.S.T.P. program. These technics hardly could be considered a model of fund allocation. It is almost four years since V-J Day, but the V.A. continues to change and modify its regulations for G.I. training in colleges. Yet the proposals in Congress in regard to higher education would follow essentially the same procedures. Some people learn from being burned, others just get burned again.

Everybody wants to get into the act. The public tax supported colleges and universities, some of the private colleges, and others under religious sponsorship and operation eagerly join the federal parade. The private colleges should take pride in their means of individual support as should those with religious affiliation. The desire to provide an independent facility for education was the reason for the founding of the private college in the first place. Why climb up the back of the taxpayers in order to fall into the federal trough? The truth of the matter is that some of these colleges figure it is an easier way to obtain their operating funds—though that isn't the reason given in public utterance by their administrators.

Private colleges are still able to get money from private sources—and in record breaking amounts. The recent report of the American Alumni Council shows the majority of institutions reporting the year just closed as their most successful. Dr. Arnaud Marts, former president of Bucknell University and now president of his own fund raising firm, estimates that when all figures for 1948 are in they will show a total of \$150,000,000 in gifts from private sources—an all-time high. Large gifts are not disappearing, states Dr. Marts, and neither are the millionaires. In 1946 (the latest Treasury Department figures available) there were 93 persons with incomes of \$1,000,000 or more as against

50 such persons in 1933. The 1946 millionaires' contribution to philanthropy was in excess of \$14,852,000; in 1933 the total giving of 50 millionaires was \$3,108,000. Also, in 1946 there were 174,111 persons with an income of more than \$25,000 as against 26,472 persons of similar income in 1933. The person who says private giving has disappeared or is in the process of disappearing just doesn't know what he's talking about.

Let's be realistic about the financing of higher education. Dr. Samuel Miller Brownell, professor of educational administration at Yale University and president of New Haven Junior College, phrased it well in an address at the annual conference of higher education of the National Education Association in Chicago recently:

"It is still good sense to take care of the pennies, whether or not the dollars take care of themselves. But in our dealing with dollars and cents—whether they come from student fees or from Uncle Sam—let us not fool ourselves or be fooled about resources available for higher education. There are not enough dollars for America to have all of the higher education, the secondary and elementary and adult education, the public health and welfare services, the armed service program, the housing, food, clothing and recreation that we *want*. Americans will have to make choices based upon their standard of values. In our country we can thank goodness that there are the national, the state, and the personal resources to a much greater degree than many believe that are available for a much, much more expanded program of higher education than we have, if *it is wanted enough* to give it high priority. It would not mean reduction in *essential* food, clothing or shelter, either. Fortunate, indeed, we are that our problem of financing is not primarily one of real *ability* to pay. Our problem is to develop in enough citizens sufficient concern and belief in the value of higher education to result in a willingness and desire to support it as adequately as we are certain it should be."

It's a Man's World

WOMEN IN COLLEGE ADMINISTRATIVE POSTS SHOULD BE properly recognized for their worth and competence—and not at minimum salaries, either. College administrators in many instances are guilty of discriminatory attitudes and policies in relation to the women on their staffs. Why should a woman's career and professional future (and salary) be limited because of her sex?

Joseph Conrad, author, sensed the trouble and summarized it succinctly: "Being a woman is a terribly difficult task, since it consists principally in dealing with men."



THE BUDGETARY IMPLICATIONS OF

R. E. SUMMERS

Dean of Admissions and Records,
and Professor of Engineering
University of Minnesota

THE PRESIDENT'S COMMISSION HAS rendered a service in outlining the possibilities for expansion of higher education in terms of the raw materials (students) to be dealt with and the facilities necessary for processing these valuable raw materials. It, or some other equally eminent body, should prepare telling arguments to use in garnering the necessary greater individual philanthropy or in approaching legislatures for funds.

Perhaps we should dispel the illusion that education is generously available to all in any desired amount. We may need to do the kind of a selling job that could result in motivation toward college of essentially all youths of adequate mental ability. Only as the possible student desires the benefits of college education and only as donors, either greatly interested private individuals or taxpayers, desire college training for all to the full degree, are we likely to see anything approaching full-scale attainment of the possibilities of college education in this country.

In reporting our experiment in extensive achievement of higher education, we have thus far dealt fairly well with the *object* and the *apparatus* of the work, but the *procedure* that we can use in the full-scale exercise is not yet clear, essentially few of the data

are in, and the conclusions must surely wait for yet some time.

But there are some interesting specific problems of financing education of the immediately impending college populations. The praiseworthy development of junior colleges and community colleges will result in certain universities and professional schools receiving unprecedented numbers of students in advanced standing status. These students will enter ready to begin as juniors, seniors or graduates in specialized curriculums in which instructional costs are highest, although their tuition often may be average or little above average.

Such high costs are inevitable where there is a fine degree of specialization, where senior teachers are required, where classes are necessarily small, and where the laboratory type of instruction frequently prevails. The four-year college with a graduate program often thus will be deprived of compensating low cost, lower division instruction of large numbers of students in well filled lecture sections.

The problem of the complex university would be bad enough, from the financial standpoint, if that institution were only robbed of instructing its students in lower division studies. The

problem is made doubly severe by the fact that usually there are about two students taking preparatory lower division work for one who finally moves into subsequent upper division study. If budgets have been based on some such usual 2 to 1 ratio of junior college to senior college students, the elimination of the two junior college students preceding each advanced enrollee could easily increase per student costs from one and one-third units to two units, or 50 per cent. This is certainly not intended to be an argument against separate junior colleges, but it may describe the development of the last year or two.

When total enrollments increase rapidly, as they did about 1946, the increase is usually felt first at lower-class levels. This means that staff members added at first may be of relatively low rank and salary. This increase in academic staff does not increase instruction costs in proportion to student increases at the onset of the expanded enrollments. Additional staff members later are found in higher level teaching, as the large numbers of students reach the upper collegiate classes.

When enrollments decrease subsequently, they decrease first at the lower levels, but then the attempt to cut

Based on a paper presented at the 37th annual meeting of the Central Association of College and University Business Officers.



ENROLLMENT TRENDS

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down expenses is not productive, proportionately, because the number of high ranking staff members cannot be drastically decreased, at least not immediately. Reducing the number in lower ranks will not greatly influence the unit cost of instruction.

Even before World War II, the graduate school was the fastest growing college in some universities. As that growth continues, which indeed it may, and as the present large group of senior college students moves past the level of the baccalaureate degree, graduate instruction surely will demand much of teaching time, physical facilities, and budgets. This situation again accounts for a change in the character of the load which is now about to fall on the larger four-year college or university.

No doubt student enrollment totals have always been the most telling facts in approaching legislatures or private benefactors of institutions of learning. Now, while we face the necessity of preparing for unprecedented new levels of attendance in the 1960's, we are at the same time confronted, in many institutions, with moderate declines in student numbers. Those declines may come while groups now on campus are moving into ex-

pensive specialized classes and graduate schools.

Thus, students at advanced levels may equal in numbers the entire pre-war enrollment of the particular university. Additionally, their instruction may cost at least twice as much as does that for freshmen and sophomores. These great new burdens will develop while we face falling per capita tuition income, as the trainee of the Veterans Administration and the non-resident become less of a factor in the student body.

Even before the ground swell of additional nonveterans begins to be felt in the middle 1950's, the costs of instruction may actually rise in the same years in which student enrollments surely will decline. College authorities face the enormous problem of obtaining the same or greater philanthropy or tax support for materially lessened numbers of students. This is necessary in view of the teaching work to be done. Increase in salaries, in the cost of supplies, and in the general price index will add to the difficulties.

I shall attempt to formalize some of these ideas by means of a mathematical equation relating the instructional budget of any educational institution

to the two great sources of operating income of the institution.

Assume that the college or university budget is met from tuition and other fees collected in proportion to student attendance and from other support not directly from students or their sponsors. Obviously, the support component is the result of gifts and endowments or from tax funds, according to the nature and control of the institution. This budgetary premise may be expressed in symbols in Formula 1 as follows:

$$B = F + S$$

wherein

B = total instructional budget, dollars
F = total income from tuition and fees, dollars
S = total support income from direct philanthropy, income on endowments, or tax sources, dollars

This simple concept of a balanced budget omits consideration of the "miscellaneous and other" income which often accounts for a few per cent of the budget but which fortunately for our purpose is somewhat constant percentagewise among colleges. The budget, B, is conceived to provide for all costs normally associated with teaching and scholarship but to exclude organized research, as in an experiment station. It includes the normal provision for faculty development, for what is sometimes called departmental research, for administration, and for all the associated costs of classroom contact.

It is a simple matter to rewrite Formula 1 in a more detailed and useful statement, such as Formula 2, which follows:

$$IB_n(1 + \Delta e) = fA_n(1 + e) + S$$

in which

A = attendance as total number of equivalent full-time students
I = index of instructional costs, as of salaries and supplies, referred to some initial condition or base
f = individual tuition and fees collected, on the average, from each full-time student
 Δ = (delta) = average cost differential in the institution when A changes, as, for example, $\Delta = 0.5$ if 20 per cent increase in attendance is associated with a 10 per cent increase in teaching costs
e = fractional increase or decrease in attendance, as $e = 0.25$ when A increases 25 per cent
n = a subscript used to denote normal conditions; hence B_n = normal budget and A_n = normal attendance, corresponding

Formula 2 may have some usefulness in relating a new or anticipated

TABLE 1—PRIVATE SCHOOLS

	$I = 1.40; \Delta = 0.75; F_n = 0.60 B_n; S_n = 0.40 B_n;$	$e = 0.00$	$e = 0.25$	$e = 0.50$	$e = 0.75$	$e = 1.00$
$f = f_n$						
B	1.40 B _n	1.66 B _n	1.92 B _n	2.19 B _n	2.45 B _n	
F	0.60 B _n	0.75 B _n	0.90 B _n	1.05 B _n	1.20 B _n	
S	0.80 B _n	0.91 B _n	1.02 B _n	1.14 B _n	1.25 B _n	
F/B	0.43	0.44	0.47	0.48	0.49	
S/S _n	2.00	2.31	2.56	2.84	3.12	
$f = 1.4 f_n$						
B	1.40 B _n	1.66 B _n	1.92 B _n	2.19 B _n	2.45 B _n	
F	0.84 B _n	1.05 B _n	1.26 B _n	1.47 B _n	1.68 B _n	
S	0.56 B _n	0.61 B _n	0.66 B _n	0.72 B _n	0.77 B _n	
F/B	0.60	0.63	0.65	0.67	0.69	
S/S _n	1.40	1.53	1.66	1.79	1.92	
$f = 1.8 f_n$						
B	1.40 B _n	1.66 B _n	1.92 B _n	2.19 B _n	2.45 B _n	
F	1.08 B _n	1.35 B _n	1.62 B _n	1.89 B _n	2.16 B _n	
S	0.32 B _n	0.31 B _n	0.30 B _n	0.30 B _n	0.29 B _n	
F/B	0.77	0.81	0.84	0.86	0.88	
S/S _n	0.80	0.78	0.76	0.74	0.72	

budgetary situation to the present case, or to some assertedly normal operating conditions of, say, the year 1939-40. With it, the circumstances of changed fee structures, swollen enrollments, and high cost index can be compared, with more than judgmental accuracy, to the conditions of either the past or the future.

Results are by no means infallible, since the Δ factor and the normal relationship of F to S both change somewhat over long periods of time. Informal research may suffer when enrollments are excessive. Faculty development may be retarded by heavy teaching assignments. Evaluation of I and of e through even a single academic year cannot be exact. Determination of a weighted mean f for tuition and support fees is a rather complex affair.

Interesting trends appear when the second formula is solved for a number of assumed cases. That has been done in preparation of the two tables. Table 1 is based on the assumption that the normal college budget is met, essentially, 60 per cent from fees and tuition and 40 per cent from philanthropy. Such a situation may normally prevail in many private schools.

Table 2 figures presuppose one-fourth normal support of the institution from student tuition and fees and three-fourths from tax sources. Thus, the second table often applies, approximately, to public colleges.

The normal situation in which fee structure, f , was equal to f_n , e was zero, B was B_n , S was S_n , and I was unity may be chosen as any stable budgetary state, for example, that of the years

1939-40 or 1940-41. It is possible to read between all parts (a, b, c, etc.) of Table 1 or of Table 2, as well as between columns or groups in the same table.

Some uses of the tables can be illustrated by examples. We may find a situation change appearing within a single section (group) of a table. For instance, one starting point might be in Table 1 where the index of instructional costs is 1.40, $\Delta = 0.75$, the individual fees 140 per cent of those prewar ($f = 1.4 f_n$), and the enrollment 75 per cent over normal. There we note that, since $S = 0.72 B_n$, the support component has to stand at 72 per cent of the normal budget.

If enrollments decline to only 25 per cent above normal and the other independent variables remain essentially constant, we read from the same

group of the table that the support component decreases only to 0.61 B_n . Even with fees 40 per cent above normal and enrollment only one-fourth greater than prewar, support income must be 61 per cent of the total normal budget. Basically, support funds have met 40 per cent of the normal budget.

In public colleges, a problem is arising that is due to the decreasing numbers of veterans who have been paying higher than customary fees. This problem is presented because the effective mean f is decreased when the proportion of student veterans declines, even though the tuition and fee schedule stands. At the present time while the resident tuition may be only 40 per cent above normal ($1.4 f_n$), the average individual tuition effective might equal $1.8 f_n$. Also, e could easily equal 1.00, and $\Delta = 0.75$. We find this situation illustrated in Table 2 and note that $S = 1.55 B_n$. If at this point the number of veterans enrolled drops off so that e is reduced to 0.50 and f falls, in the aggregate, to $1.4 f_n$, S will become $1.40 B_n$, which is still high. But if I becomes 1.60 at the same time, S will be $1.68 B_n$, actually higher than with a third more students in a situation of lower costs.

Suppose we start with a situation in Table 2 in which $I = 1.40$, $\Delta = 0.75$, $f = 1.6 f_n$, and $e = 0.50$. By interpolation, S is located in the table as the mean between $1.40 B_n$ and $1.25 B_n$, or $1.33 B_n$. Then if e becomes 0.35 and f is reduced to $1.4 f_n$, we interpolate between the given values where e is 0.50 and 0.25. S has a value two-fifths of the way from $1.22 B_n$ to $1.40 B_n$, or $1.29 B_n$.

TABLE 2—TAX SUPPORTED SCHOOLS

	$I = 1.40; \Delta = 0.75; F_n = 0.25 B_n; S_n = 0.75 B_n;$	$e = 0.00$	$e = 0.25$	$e = 0.50$	$e = 0.75$	$e = 1.00$
$f = 1.4 f_n$						
B	1.40 B _n	1.66 B _n	1.92 B _n	2.19 B _n	2.45 B _n	
F	0.35 B _n	0.44 B _n	0.52 B _n	0.61 B _n	0.70 B _n	
S	1.05 B _n	1.22 B _n	1.40 B _n	1.58 B _n	1.75 B _n	
F/B	0.25	0.26	0.27	0.28	0.29	
S/S _n	1.40	1.63	1.87	2.10	2.33	
$f = 1.8 f_n$						
B	1.40 B _n	1.66 B _n	1.92 B _n	2.19 B _n	2.45 B _n	
F	0.45 B _n	0.56 B _n	0.68 B _n	0.79 B _n	0.90 B _n	
S	0.95 B _n	1.10 B _n	1.25 B _n	1.40 B _n	1.55 B _n	
F/B	0.32	0.34	0.35	0.36	0.37	
S/S _n	1.27	1.47	1.67	1.87	2.07	
$f = 2.2 f_n$						
B	1.40 B _n	1.66 B _n	1.92 B _n	2.19 B _n	2.45 B _n	
F	0.55 B _n	0.69 B _n	0.82 B _n	0.96 B _n	1.10 B _n	
S	0.85 B _n	0.98 B _n	1.10 B _n	1.22 B _n	1.35 B _n	
F/B	0.39	0.41	0.43	0.44	0.45	
S/S _n	1.13	1.30	1.47	1.63	1.80	

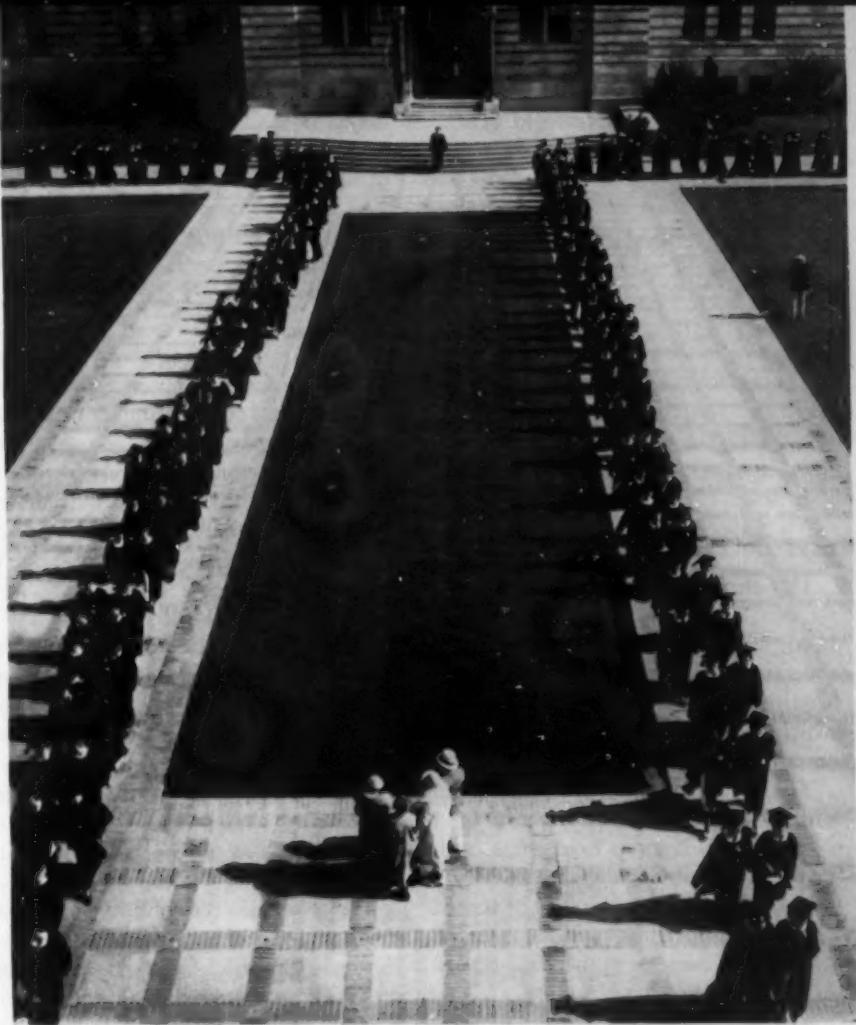
The traditions of their school are the things most fondly remembered by most of the alumni.

IN CONSIDERING THE SUBJECT OF making the alumni fully effective in aiding the college, we should perhaps consider first just what we mean by the term "effective." Some time ago a clipping, which I think describes the ideal alumnus very well, came to my attention.

"The alumni secretary is reported to be a victim of hallucinations. He is said to have related a vision in which he met the ideal alumnus. This individual, according to the secretary, sends in newspaper clippings every time he reads about the school or one of its alumni, makes regular and generous contributions to the college, talks about his alma mater to prospective students, sends the names of outstanding high school seniors to the admissions office, and writes the alumni office when he hears about his school on the radio. This man also solicits funds from wealthy and philanthropic individuals, is an active member of his local alumni club, notifies the office when he changes his address, and writes occasionally telling of fellow alumni whom he meets in his travels. The alumni secretary is still feverish after his vision, but his temperature is slowly dropping to normal."

We all wish that our alumni groups consisted entirely of people such as this, but in most cases they fall far short of this ideal. Perhaps the reason is that we often are prone to forget that in order to make the alumni fully effective in aiding the college, we must first make the college fully effective in aiding the alumni. If this is done, a much higher percentage of our alumni in time will approach the ideal mentioned, and the visions of the alumni secretary will not be quite such a shock to his constitution.

In fact, it is necessary to go back one step farther. Since our only source of alumni is from the student body that is passing through the institution,



HOW TO MAKE ALUMNI FULLY EFFECTIVE

F. G. KETTELKAMP

Alumni Secretary, Washington University
St. Louis

we must be sure that the school is fully effective in developing in these students a feeling of devotion and loyalty that will grow ever stronger with the passing years.

The good alumnus is one who loves and appreciates his university, one who has been inculcated on the campus with the love of the institution and not of the alumni secretary. All of the

aspects of college life go to make up this emotion in the heart of the graduate as he looks back on his college days. But perhaps for most alumni the traditions of their school are the things they remember most fondly. A tradition is a fragrance of life that is known to exist only by those who sense it. Old songs sung by generations of happy students; old stories

that deserve retelling; old jokes that are ever new; old places; old dreams; old enthusiasms—these have a way of becoming traditional. Someone has said: "Traditions are cream skimmed off the rich milk of the college mind."

Governor Warren of California, remembering his college life at Berkeley, talks of five traditions that were dear to him. They are: (1) the spirit of scholarly achievement; (2) the spirit of humor; (3) the spirit of song; (4) the spirit of student meetings, and (5) the spirit of athletic idealism.

DEVELOP ALUMNI SPIRIT

Our first job, therefore, is to do all we can to see that the student is imbued with these traditions while on the campus. If he is, he has begun to acquire the "alumni spirit," without which it is nearly impossible to develop our ideal alumnus.

Too often the student is graduated with a love for his university, and upon contacting the school for a transcript or recommendation he finds that he is sent from office to office or is told that the information will be sent to him, and he then waits in vain because someone forgot.

We all know the story of the wealthy Texan who returned to his alma mater with the idea of giving it a large endowment. He could find no one who had the time or inclination to talk with him since his appearance belied his intentions, so he finally left and visited another school. Here, a student saw him, showed him the campus and introduced him to members of the staff so that, as a result, this school was the recipient of his large fortune.

We must be sure that the alumnus is welcomed and treated with courtesy, with the thought in mind always of how the school can be of help to him. Never can we afford to be so busy that we cannot take a few minutes to chat with the visiting alumnus, tell him the whereabouts and activities of his friends, and listen to his reminiscences.

It is the responsibility of the alumni magazine and office to keep alive the emotions the alumnus feels when he thinks of his alma mater. The magazine keeps alive the traditions dear to him by reminding him that they not only still exist but also have become more deeply rooted during each passing year. The records of the athletic teams, the increasing fame that has come to one of his favorite professors, the activities of the campus organizations to which he belonged, and the news of the many friends he made in school are all brought to his attention.

An increasing number of schools are distributing the magazine to the entire alumni body, free of charge, and not just to those who subscribe to it each year. This plan, if the magazine is well written, should more than pay for itself. It is essential that the alumnus be continually informed of the activities of his college, and the best way to do this is by means of a good magazine.

FALSE ECONOMY

The rôle of the alumni office is much the same as that of the magazine, namely, to offer as much help to the alumnus as possible. Many offices are understaffed, and about all they are able to do is to keep the addresses fairly well up to date and to handle the reunion each spring. This also is a false economy, since the many services that can be performed by an adequately staffed and well equipped office will be most helpful to the alumnus. His appreciation for this help is reflected in his increased interest in his college.

Last year the procedure at Washington University of making an address change was altered so that the secretaries of the clubs in the cities to which and from which an alumnus moved could be notified as soon as the information was received by the office. This made it possible in many cases for the secretary in the city where he was going to live to call and welcome the alumnus on his arrival,

or shortly thereafter. The good will created is worth far more than the extra cost.

Many schools have been unable to print a new directory for several years, and since the rate of moving has been greatly accelerated during and since the war, the old directory is woefully out of date. Our office therefore has stencil-duplicated a directory for each town where a club is located and has sent it to all the alumni in that community. Supplements are sent every few months so that these directories are kept up to date.

HELPFUL IN BUSINESS

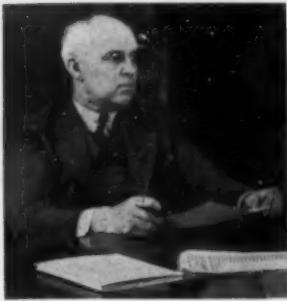
This practice is helpful to the alumnus, since he often finds that his business associates are fellow alumni. In at least one case this made it possible for an alumnus to close a contract, on which he had worked for some time, and he will be eternally grateful to his university for this help. His contribution to the alumni fund is not only substantial but, we hope, perpetual.

Few campus organizations like professional fraternities, dramatic groups, and social fraternities have facilities available to mail notices of meetings and other activities to their alumni, who, therefore, usually are not informed about these happenings and gradually drift away from the group. Files can be kept of these groups so that notices can be addressed rapidly and at no expense to the undergraduate group. Moreover, these can be corrected automatically when the changes come into the office. This has proved most successful in keeping the spirit of the alumni alive.

The so-called "alumni spirit" through which the alumnus is willing to aid his college is unique in America. It is rooted in the traditions of his school. If we do everything possible to see that he is imbued with it as a student, not irritated by thoughtless mistakes after he is graduated, and rendered services both material and spiritual by his alma mater, he will become fully effective in aiding his college.

"Discipline" in Residence Halls

Counsel for counselors will be given in an article scheduled for July. Robert E. White, assistant to the manager of residence halls at the University of Illinois, will tell how to deal with bad actors. Emphasis is on prevention.



Pointers on dealing with nonacademic

PERSONNEL



Do not talk much yourself but . . .

. . . always be available to the employe.

PERSONNEL PROBLEMS OF COLLEGE
business officers in general are the same as in any other business or industry and may be defined roughly as procuring, developing, maintaining and using an effective work team.

The keystone to all personnel problems is undoubtedly a satisfactory wage or salary for the worker, but in addition to this it is vital to have conditions both on the job and in the community as satisfactory as possible. Some of these situations are beyond the employer's control but, so far as possible, we should try to improve them.

Not only should the employe know how much he is to be paid, but he should know how much service he is to render and how many privileges he is to have; in other words, he should know when to come to work; when to quit; how many hours per week he should work; to what vacation he is entitled; what allowances for sick leave are made, if any, and, an item which has only recently come into prominence but seems now to be universal practice although not universally set up by management in formal schedules, the regulations regarding coffee or coke time off each half day.

This last named practice is a thing that you might just as well consider because apparently people working in most offices and plants today are going to take the time whether formally granted the privilege or not. In many places 10 or 15 minutes is allowed in the middle of each half day period and the employes, all except one or two who remain to answer the telephone and take time out later, leave at the same time.

Another question in which there is no uniformity at the present time is

From an address at the southwestern regional meeting of the National Association of Educational Buyers, Dallas, Tex., 1948.

W. M. LOVELESS

Business Manager
Texas State College for Women

permitting women employes to smoke on duty. If they are not permitted to smoke on duty, is there some place where they may smoke? Of course, the latter arrangement also involves taking time off. We do not allow our women office workers to smoke on duty. Men are allowed to smoke on duty, however, and it seems to me that this is an unjust discrimination.

A problem we have in the college power plant, which we operate on three shifts, 24 hours a day, is whether the shifts should remain fixed or whether the men should rotate. The two men working daylight shifts do not want to rotate; the man working the night shift always wants to rotate.

RECREATIONAL ACTIVITIES

Another problem that industry generally works out is the matter of social and recreational activities for the group. So far as I know, few colleges have any separate program for the office and maintenance personnel along these lines.

Another question, particularly interesting to state institutions that are somewhat limited in the exercise of their own judgment in such matters, is what has been done formally or informally for sick leave and pay for employes who are injured in line of duty; also paying doctor, medical and hospital bills for those injured in line of duty. Some states, unfortunately, have no provision for taking care of these items.

One of the particular problems many colleges have is the inability to employ their own graduates. We attempt to fill all secretarial positions with graduates from our economics and business administration depart-

ment, but two factors operate against the success of this practice. Most of our girls can get more money elsewhere, although our rate of pay for secretarial positions, generally speaking, is equal to or above that of corresponding positions in local industry. Our graduates can go out and get special jobs, whereas we can offer them only ordinary ones. Furthermore, we have a handicap peculiar to our institution. Since we are a woman's college, most young women do not want to go to work for the college and stay any length of time because they are severely limited in their social contacts with desirable young men.

We recently tried to employ a young man accountant, and I was told that graduates of business administration at the University of Texas were stepping into jobs ranging from \$3500 to \$5000 immediately upon graduation. We are not able to pay such salaries, so our only solution to a problem of this kind lies in getting someone who, for some particular reason, wishes to live in our particular town.

Since in all offices continuity of service is a vital consideration, we attempt to fill our positions with people who are married or more or less settled in their home life. In choosing women employes there is also the possibility of getting widows with young children to support, which usually has a stabilizing effect.

One thing just as well to consider is that sooner or later you are going to deal with unions. The Illinois Institute of Technology has a union known as Building Employes, A.F.L. This is an over-all type of union covering all custodial people, such as carpenters, electricians, plumbers, maintenance mechanics, housemen, maids and cafeteria help; in fact, the entire operating personnel. This avoids jurisdictional disputes and the influence of

members of the union who are not employed by the college. Clerical and office employees are not included in this union.

One of the elementary problems of personnel management is keeping a record of each employe showing his pay, when changes were made in the rate of pay, and so forth.

Furthermore, every employe should be made to feel that he is an important part of the organization and that he is working *with* the boss, not *for* him. In our business we are all employees ourselves. We do not own the institutions, and it will be much easier to maintain good relationship with employes if we make them feel that we are not "their employers" but that both of us are the employes of the institution, and that we both owe the same loyalties to the institution.

An important factor in building up an organization is to take care that no matter who may drop out suddenly and unexpectedly someone can fill the position and take care of the work until other arrangements can be made. No one man should be in a position where the work cannot be carried on if he fails to report for duty.

There is the further question of tenure. How long do you keep an employe before you feel obligated to continue his employment? This idea might be subdivided into office workers, skilled workers, and laborers. We do not feel obligated to keep laborers unless they have been on the monthly pay roll for three or four years. We try not to keep a skilled worker longer than a year unless we expect to keep him permanently, and we never put an office worker on a permanent salary unless we expect to keep him as a part of the permanent force. It does not always work out this way, but it depends upon the job. We make a change in from six months to a year, or else we feel that he has a right to expect to be permanent.

There are two important factors in dealing with people. Do not talk too much yourself but always be available to the employe "to talk out" any grievance or misunderstanding he has, or even any personal difficulties. Provide a shoulder for him to cry on. Most personal problems can be solved by the individual if someone will merely listen to him long enough. Be considerate and polite to all employes and do not worry particularly whether they like you or not. Always maintain a friendly dignity.

WE OPERATE A CENTRALIZED RECORD KEEPING SERVICE

F. E. OLIVER

Assistant to the Controller
State University of Iowa

MANY UNIVERSITIES AND COLLEGES are currently looking for better methods of processing the greatly increased volume of records and statistics which has become a problem in the past few years. One solution has been found in the pooling of record keeping equipment in a central department established for that purpose alone.

This is most efficiently done through the use of electrical punched card equipment, for this type of equipment can handle accounting procedures, student and class records, and many research problems with equal facility. Through the use of this type of business machine equipment as a common denominator, several institutions are now making use of a centralized record keeping service department.

There are several advantages in pooling equipment in a central location to perform these tasks. General office space can be utilized more effectively if machines for record processing are located elsewhere. Accounting and auditing controls can be intelligently exercised when personnel involved in processing records is not directly connected with the officers responsible for such controls.

The over-all expense of maintaining separate installations of equipment is far greater than are the hourly charges for the use of a centralized installation. The problem of idle machine time disappears, and much more economical use of expensive equipment is effected. Perhaps the greatest advantage of centralization of record keeping equipment is that it makes possible the accomplishing of a great variety of tasks that would be impossible or impractical otherwise.

In combining two or three or more installations of equipment, duplicate

pieces sometimes can be eliminated. But more important still, the wide range of equipment found in a combined unit can be available for complete service of all kinds to an office formerly limited to the use of a few machines. This is true in business office and registrar's office work, also in the field of research. Graduate students are encouraged to attempt far-reaching and more significant projects with the great time savings of speedy analysis available in such a service department. University research departments also are interested in the wide flexibility of analysis and efficient handling of detailed data on continuing projects.

INCLUDE CALCULATOR SERVICE

Although punched card equipment is best adapted to the type of work required from a centralized statistical service department, calculator service should also be included to complete statistical problems that cannot be finished through the use of punched cards.

Allocation of machine time to satisfy each department's immediate needs can be accomplished with careful supervision of the flow of source documents and use of the various types of machines. The monthly peak loads of pay roll preparation and accounting reports seldom conflict with the more infrequent peak loads of registration days, semester or quarter class lists, and grade reports.

When business office and registrar's office routines do require simultaneous processing, the respective loads often can be arranged to fall upon different equipment. If conflicts in use of one type of equipment occur often, a second machine of that type should be

Rate Schedule in Use at State University of Iowa
Effective Fiscal Year 1948-1949

Machine Name	Machine Number	Rental	Rate per Hour Labor	Total
Numeric Key Punch.....	12	\$0.25	1.15	\$1.40
Alphabetic Punch.....	13	0.30	1.15	1.45
Gang-Punch Reproducer.....	14	1.90	1.30	3.20
Verifiers.....	15	0.15	1.15	1.30
Mark-Sense.....	17	3.25	1.30	4.55
Summary Punch.....	19	1.75	1.30	3.05
Card Count Sorters.....	21	1.65	1.30	2.95
Sorters.....	22	0.65	1.30	1.95
Tabulators.....	24	4.00	1.30	5.30
Collators.....	25	1.90	1.30	3.20
Interpreter.....	27	2.15	1.30	3.45
Calculating Machine.....	30	0.85	1.15	2.00
Adding Machine.....	31	0.35	1.15	1.50
Typewriter.....	32	0.30	1.15	1.45
Detacher.....	33	0.40	1.25	1.65
Clerical.....	34	0.85	0.85

obtained so that continuous service can be maintained. Almost daily, equipment is available for special project work which opens a new field of service, namely, that of statistical research for graduate students or university departments.

Close cooperation between the service department's manager and other department heads will help solve many scheduling problems and, incidentally, at the same time will bring about a greater understanding toward the "other" department's problems. This can be of reciprocating benefit.

EQUIPMENT RENTED

If there is justification for a central department rendering service similar to the foregoing, it should be operated on a revolving fund cost basis. Punched card equipment often cannot be purchased but must be rented by the month. Consequently, it is important to keep constant and close watch over machine usage to determine which machines are not "paying their way" or are overloaded. Under the rental contract all equipment is rented on a month to month basis; thus equipment on hand can be continuously adjusted to meet changing job requirements economically.

The necessary cost accounting can be maintained for such a department if all employees using machines record their time worked on time cards, using job recorders to show exact time and date entries. Each time an employee changes from one job to another or from one machine to another, a new time card should be recorded. These time cards (punched cards) then can serve as originating documents for pay roll vouchers, job billings, and machine usage analysis.

To determine an equitable rate schedule for charges for service rendered, it is necessary to readjust rates periodically. This is done by determining direct costs (machine rental and direct labor) for the coming year for each machine and dividing each machine's total direct cost by the number of hours of expected use of that machine to determine the direct cost rate per hour. This should be increased for indirect costs by a percentage found by dividing total expected indirect costs (such as manager's and supervisor's salaries, and office supplies) by total direct costs.

After adjustment for this overhead, the new rate schedule should be usable without readjustment for the entire fiscal year. Theoretically, the department's operations should balance out at the end of the year.

YEAR-ROUND SERVICE

The statistical service department at the State University of Iowa offers a year-round computing and reporting service to all university connected personnel or offices. The history of the use of punched cards at Iowa dates back to the early 1920's. In 1933 all punched card equipment was set up in the statistical service department, and it has operated as a central service department since that time.

Broad use of the term "statistical service" was made when the department was given this title, but other words seemed to describe no better the type of service offered. It includes university-wide accounting and financial reports; class lists, grade reports, permanent records and other student statistics; special analyses for graduate and departmental research. The ratio of time allotted for these three

main areas runs as follows: business office accounting and allied reports, 70 per cent; registrar's office student and class records, 15 per cent, and special research analyses, 15 per cent.

It would be a tedious job to list all the applications now on punched cards in the statistical service department, but a list of the major jobs might be of interest.

Accounting Procedures and Allied Reports. Cash receipts register; cash disbursements register; intramural entries; subsidiary ledgers of operating accounts; general ledger; student fee register; student loans; accounts receivable; telephone charge distribution; residence hall and dining service earnings; physical plant job cost accounting; general and hospital stores distribution; budget allocation revisions; bank reconciliation; payee register; pay roll earnings; pay roll deduction lists; pay roll checks; annual "W 2" forms; equipment records; hospital earnings; indigent patient charges; hospital admissions; hospital patient days; printing service job cost accounting; statistical service job cost accounting; space billing of *Daily Iowan* advertisers; veterans' billing; Big Ten annual salary analysis; personnel accounting, and special receipt and expense analyses.

Registrar's Office Procedures. Student directory lists; class lists; delinquency reports; final grade lists; grade reports; student permanent record cards; enrollment count, and geographical distribution.

Statistical Research. Rate tables; frequency distributions; percentile ranks; equating or weighting scores; sums of scores, squares and cross-products; item analysis; analysis of variance and covariance, and Chi squares, correlations and the like.

The present equipment in use includes 4 tabulators, 2 summary punches, 2 reproducers, 2 collators, 6 sorters (2 with card counters attached), 1 interpreter, 1 multiplier, 8 key punches, 4 verifiers, 1 continuous forms detacher, and 2 automatic electric calculators.

MANAGER IS COLLEGE GRADUATE

The normal staff required to operate this equipment is comprised of a manager, secretary-statistician, production supervisor, nine tabulator operators, a punching supervisor and eight key punch operators. The manager has a major in accounting and additional training in statistics.

FARMING

can be made profitable in a boys' school

WILLIAM E. PARK

President, the Northfield Schools
East Northfield, Mass.

THE NORTHFIELD SCHOOLS, WHICH comprise Northfield School for Girls and Mount Hermon School for Boys, each with an enrollment of approximately 500 students, have operated farms on the two campuses continuously for over 67 years. The conclusion reached from this experience is that the operation of a farm can be profit-

able at a boys' school if it is an integral part of the educational program.

The schools, however, have maintained a farm at the girls' school in order that the source of milk supply might be controlled and to act as a grounds maintenance department, which has been particularly helpful in times of labor shortages and during



Students at Mount Hermon School for Boys work regularly at farm tasks. With the exception of actually driving tractors and trucks, the boys get experience in all work done on the farm. Right, boys sorting apples, while another is milking one of 150 registered Holsteins. Opposite page, a haying scene and, below it, a student is feeding chickens.





the winter in shoveling snow and clearing roads. Besides supplying the school with milk, the farm yields some beef, pork and veal for school consumption, as well as hay and crops which are grown to feed the herd.

Also, enough lumber is harvested each year to take care of all rough construction and some finish work in the school. This operation also supplies firewood for school fireplaces. All the work has been done by hired help, since there are few farm jobs that can be effectively handled by girls. While the farm at Northfield has operated at a profit some years, they have been in the minority.

On the other hand, the farm at Mount Hermon School is run on a much larger scale, with greater diversification, and is closely tied in with the work hour policy of the school, through which every boy does 10 hours of manual work each week. Approximately 100 boys work regularly at farm tasks, and an attempt is made to give every boy who is in the school

for a number of years an opportunity to gain experience in farm work.

At various times the board of trustees of the Northfield Schools has discussed the possibility of discontinuing farm operations at the girls' school and operating one enlarged farm at Mount Hermon. This has never been done, in part because there is an advantage in maintaining separate herds. While there have been few times when the herds have not been entirely healthy, if a disease breaks out in one herd it still is possible to supply a limited quantity of milk for both schools until outside milk is made available. Furthermore, this decision also has been affected by the value of the farm in keeping down other service costs in the school and by the difficulties that would arise in disposing of the farm buildings and property which the schools own.

FARM NOT ALWAYS PROFITABLE

However, the experience at Northfield leads to the conclusion that any girls' school or college contemplating the establishment of a farm with the idea of making a profit undoubtedly would be making a grave mistake. In most communities it is possible to buy food more cheaply than it can be supplied by a local farm, run entirely by paid labor.

The remainder of this article will deal with the highlights of farm operations at the boys' school, which have proved to be not only financially profitable but also of real educational value.

With the exception of the period between 1904 and 1912, when special farm operations (sheep and horse breeding, a poultry project, the planting of many varieties of fruits, and introduction of crops for classroom purposes) were maintained for the department of agricultural instruction at Mount Hermon, the farm policy has been one of producing only what could be used at the school and acting as a service department. The success of the farm has been due in great part to the policy of holding rigidly to good dirt farmer practices. No project is continued that does not pay its own way. Methods are changed quickly to meet conditions in outside markets. Machinery is purchased to make up for the declining supply and high costs of labor. One of the largest factors in the financial success of the farm has been the adaptation of farming operations to the service program of the school. This often means following a

program that is not necessarily the best for the farm but does meet the over-all needs of the school.

For the first 30 years the farm at Mount Hermon operated with a small yearly deficit. After the establishment of agricultural instruction in 1904, it was thought that the farm operations conducted solely for the benefit of these courses were the chief cause of continuing farm deficits. Accordingly, with the exception of the large herd of Holsteins maintained for breeding and show purposes, many of the special farm operations were dropped in an effort to meet the deficit. Increases were made in the credits for farm produce, especially in the price of milk, which represented 75 per cent of the income from the produce of the farm.

In 1928 courses of agricultural instruction were removed from the curriculum, and the farm was reorganized as a separate department of the school. Since 1930, with the exception of one year, there has been a credit balance on the farm. For the first 10 years the profit was approximately \$2500 annually; during the years 1941 to 1947, it averaged almost \$5000 per year. For the last 20 years all credits for farm produce, with the exception of milk, have been made by the purchasing department, based on the market price and fluctuating with that price. It has been necessary to maintain a fairly stable credit for milk to avoid a deficit resulting from loss in income during vacations and in times of general surplus on the market. The price of milk, which was 14 cents a quart in

a lower rate than the same service would cost outside.

The following table gives some idea of the annual production of the Mount Hermon farm:

Apples	3800 bu.
Asparagus	1562 lb.
Corn	1218 doz.
Potatoes	2050 bu.
Rhubarb	2240 lb.
Tomatoes	.149 bu.
Beef	3562 lb.
Pork	11,070 lb.
Veal	.472 lb.
Eggs	9782 doz.
Fowl	4018 lb.
Roasting Chicken	5936 lb.
Milk	162,831 qt.
Cream	2510 qt.
Corn Ensilage	146 tons
Grass Ensilage	390 tons
Hay	155 tons
Lumber	46,000 ft.
Wood	31 cords

The following breakdown of farm operations indicates clearly how necessary is student work participation and how impossible it would be to run the Mount Hermon farm as a profitable source of food supply without the work-hour program.

At Mount Hermon the herd of 150 registered Holsteins, with 75 cows being milked daily, is cared for by two men assisted by work-hour boys. The students milk and feed the cows, raise the calves, assist in the treatment of sick animals, clean the barns and participate in all other phases of work that go with raising and caring for a dairy herd. The care of the milk and milk machinery is done by the boys under the supervision of one man. The work consists of weighing the milk as received, putting it through the cooler, separating part for cream, pasteurizing both cream and milk, bottling part for family use, and washing and disinfecting all of the milking machines and creamery equipment.

The school has 16 acres of orchard which produce sufficient apples each year for both schools. The boys work with the superintendent in pruning, mulching, spraying the trees under a comprehensive program, thinning the fruit, picking and storing the crops. Corn and grass ensilage and hay are grown for the cattle, and Mount Hermon raises enough potatoes each year for the use of both schools.

The garden is managed by one man working with the students. The boys get experience in the preparation of



1920 and reached a low point of 11 cents for the period 1940-46, is now 16 cents a quart, which is lower than the price paid by other institutions in the same locality.

In considering the farm as a profitable department of the school, it should be noted that no charge is made for land rental or capitalization of buildings. Taxes and the upkeep of the buildings and fences, machinery and equipment go into the current operating expenses. However, the farm acts as the service department of the school, taking care of the grounds and trucking, and as such receives credits for that work. These credits are set at



Students shown digging at boys' farm in East Northfield, Mass.

the soil, the planting of seed, care of young plants, cultivation of garden crops, spraying and treatment for insects and fungus diseases, and the harvesting and storage of vegetables. Several acres of sweet corn and tomatoes are grown for dining hall use.

Approximately 100 pigs are raised annually, are butchered with student labor, under supervision, and are sent to the storehouses and dining halls. During the war years a poultry project was started again, and since then approximately 3000 day-old chickens have been purchased each year. Some of these are used for meat in the dining halls, and the pullets are kept for layers until production stops.

The farm is equipped with a full line of up-to-date machinery that includes trucks, tractors, horse and tractor-drawn plows, harrows, seeders, corn planters, potato planters, mowing machines, hay rakes, hay loaders, field hay chopper and corn harvester, gas shovels, milking machines, crop cultivators, corn binders, ensilage cutters, potato diggers, apple and potato graders, and a wide variety of small equipment. The boys get experience in all the work done with these machines with the exception of actually driving the trucks and tractors, and they assist the farm mechanic in the repair of all machinery.

In addition to the farm work, this department maintains the grounds,

water lines, sewer system, and heating conduits, and it performs general services for the school with a small staff of employed workers augmented by student help. Besides the regular maintenance of grounds, the boys work on the excavation and grading of lawns and athletic fields, the building and surfacing of roads, the construction of gravel and concrete walks, and the handling of fuel for storage.

In summary, it can be pointed out that there are many advantages in operating a farm in an educational institution for boys. In the first place, it is of great benefit for the institution to control the source of its milk supply and to be assured that it is coming from healthy herds. Second, in abnormal times, it is most advantageous to have a source of meat, poultry, vegetables and eggs when such products are scarce throughout the country.

An illustration of this occurred during the last war when a shipment of turkeys coming from Chicago to supply Thanksgiving dinner was diverted for navy use, and the school was able to substitute its own chickens.

In the third place, the educational advantages of working on a farm, especially for boys from cities and towns, are of untold benefit. A most fascinating collection of letters of city boys to their parents after their farm experi-

ence could be made from the files at Mount Hermon.

Fourth, the use of the paid farm staff for the year-round grounds maintenance and repair work of the school is of great help in the efficient and economical operation of the school plant. Fifth, the experience of Mount Hermon School has proved that it is possible to operate a farm in connection with an educational institution and still show a profit.

There are, of course, disadvantages and difficulties that arise in operating a farm in connection with a school. The whole success of the venture depends upon obtaining intelligent and capable farm supervisors who are broad enough to see the advantages to the student and who are willing to go out of their way to make the work educationally valuable. Furthermore, there is always the difficulty of fitting a farm program into the busy schedule of the students. Friction is likely to arise between the farm and other departments in the school. This problem requires a great deal of wisdom and experience on the part of those responsible for the curriculum and the scheduling of the boys' time.

However, the history of the farm operation at Mount Hermon School has proved conclusively that the project has been worth while.



CLASSROOM BUILDING *at Whittier*

G. DUNCAN WIMPRESS

Director of Public Relations
Whittier College

ONE OF THE NEWEST ADDITIONS TO the physical plant of Whittier College, Whittier, Calif., is Lou Henry Hoover Memorial Hall, named in honor of Mrs. Herbert Hoover, late member of the Whittier College board of trustees. The beautiful \$250,000 classroom and office building, dedicated recently, includes 13 classrooms, four offices, and a large lecture hall.

With its boiler room, basement and first floor slab of reinforced concrete, the new building is of fir wood frame construction, with stucco walls and structural steel beams and columns

throughout. It is topped with English shingle tile roofing.

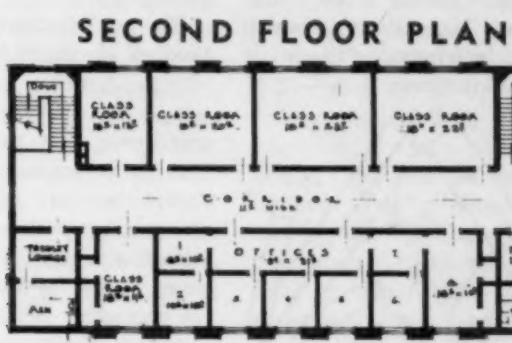
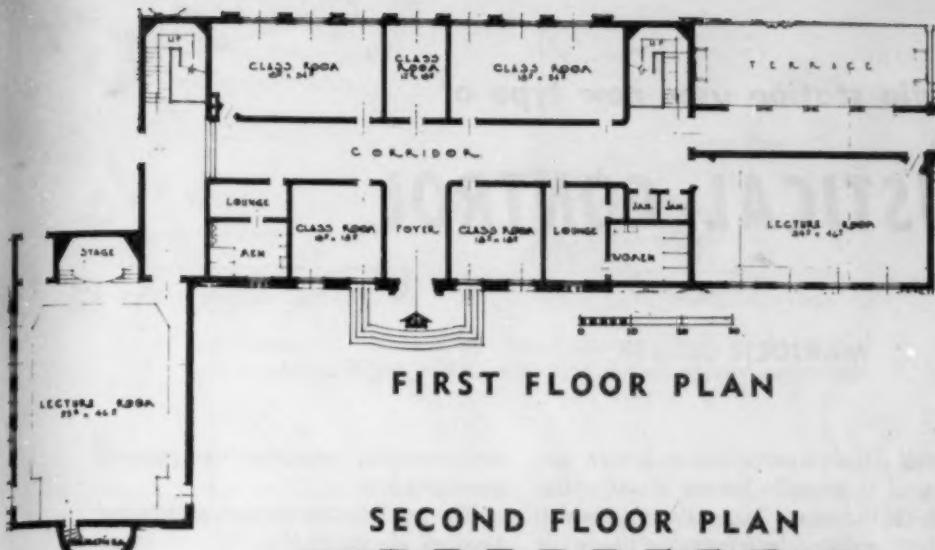
Designed in California Colonial style, Lou Henry Hoover Hall has fabricated beech block flooring in all rooms, with asphalt tile in the corridors. Acoustical ceilings are used throughout.

Included in this new addition are facilities for coffee and light refreshment service during extracurricular events.

The new building contains more than 14,000 square feet of floor space and was built at a cost of \$14.46 per

square foot. Future plans include the addition of a south wing.

Made up of a two-story central section with a one-story north wing, Lou Henry Hoover Hall has eight classrooms, two offices, and a lecture hall on the ground floor, and five classrooms and two offices on the second floor. A partially enclosed terrace to the north of the main section will serve as an outdoor classroom during fair weather. Offices in the new building are those of the financial secretary, department of public relations, alumni affairs, and one faculty office.



GENERAL DATA: Two-story classroom and office building, including a lecture hall seating 193; 13 classrooms, each seating from 12 to 60, and four offices.

CONSTRUCTION: Reinforced concrete in boiler room, basement and first floor slab; structural steel beams and columns throughout; Douglas fir wood frame; stucco walls; English shingle tile roof. Interior partitions, wood frame and plaster. Windows, full awning type, outward projecting wood sash; cast stone grilles cover a number of openings.

FLOORING: Asphalt tile treads and risers. First floor, fabricated beech block over cement; second floor, fabricated beech block over wood. Tile floor in toilets, unglazed ceramic.

WALLS: Hardwall plaster over gypsum lath. Light colors; reflection factor, 70 per cent.

CEILINGS: Acoustical board $1\frac{1}{4}$ inches thick in toilets; $\frac{1}{2}$ inch thick throughout remainder of building. Off-white color; factory painted.

HEATING AND VENTILATION: Hot water for circulation, using convectors in classrooms and warm air recirculating system in two lecture rooms. Hot water boiler.

LIGHTING: Indirect incandescent fixtures.

KITCHENETTE: Hot plate and sink for coffee and light refreshment service.

CONSTRUCTION COSTS: General, \$151,682; plumbing and heating, \$30,782; electric, \$20,000; site work, \$5000; total, \$207,464. Fees and cost of land and equipment not included. Cost per square foot, \$14.46.



University of Kentucky radio station uses new type of

ACOUSTICAL CONTROL

MARJORIE SULZER

THE UNIVERSITY OF KENTUCKY radio station, WBKY, has just completed the installation of a new studio using a radically different kind of acoustical treatment—polycylindrical diffusers. These are convex splays of plywood placed around the walls to reflect and absorb sound energy. This treatment was originally used for acoustical control in motion picture recording, and the first broadcast station to employ it was WHLD, Niagara, N.Y. The university studio is the first of its kind in educational radio to use it, so far as is known.

The suitability of a studio for broadcasting depends primarily upon two factors: reverberation and interference. Reverberation is responsible for the slowness with which sounds die away, and in the past it has been controlled by selecting wall materials, draperies and floor coverings that would absorb sound energy to the desired extent.

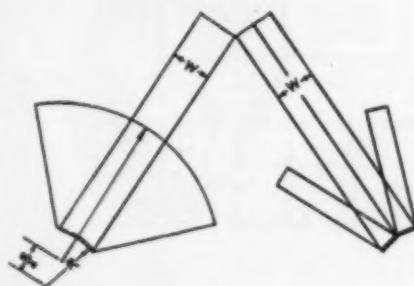
ABSORB HIGH FREQUENCIES

These materials, however, absorb high-frequency sound energy more than low-frequency sound. This problem is not too serious when AM transmitters are in use, since they do not transmit waves in excess of 7500 cycles per second (about the top note of the piano). But when FM transmitters are in use, this problem is important, since FM transmits frequencies up to 15,000 cycles per second. (The UK station is of the frequency modulation type.)

Interference of sound waves causes variations in intensity from point to point. As a result, waves tend to reinforce one another at certain points and to destroy one another at other points. Tests have shown zones in studios where the intensity of sound was greater than at the source, separated by zones of almost complete annulment.

The latest method of controlling both of these factors is by the use of

wall panels constructed as convex surfaces, technically known as polycylindrical diffusers. The manner in which they reduce interference effects is shown in the illustration.



The diagram shows the length of a reflected wave front from a convex splay and from a flat panel. It is seen that the wave front of a beam of sound reflected from a convex surface is considerably longer than that from an equally large flat surface, provided that the wave length of the incident sound is small compared to the dimensions of the reflecting surface. This gives a more uniform distribution of sound pressure and consequently reduces the interference effect between direct and reflected sound.

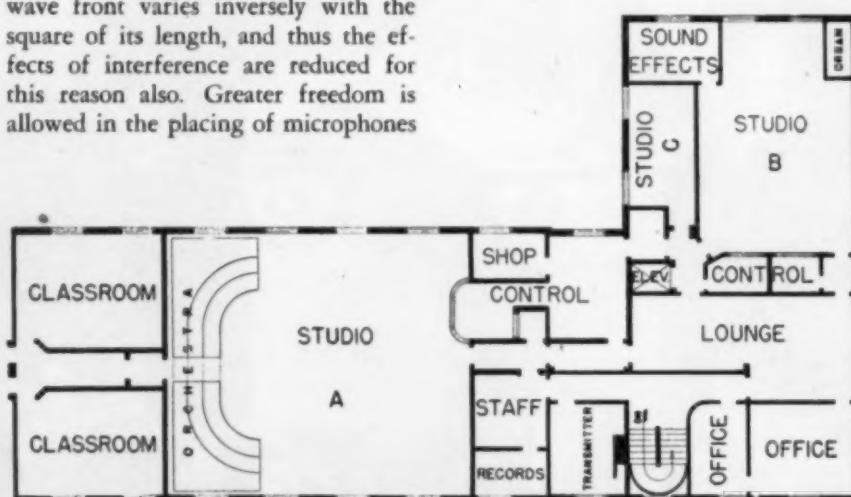
The intensity level is lowered because the energy of a propagating wave front varies inversely with the square of its length, and thus the effects of interference are reduced for this reason also. Greater freedom is allowed in the placing of microphones

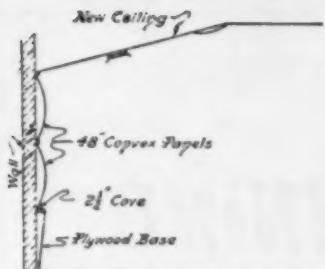
since intensity variations from point to point are less.

The small increments of energy and random phases of the diffused sound also produce less up-and-down variation in the intensity level when sound dies down to a particular level than they do in untreated rooms. For this reason there are not as many echoes, and a room with sound diffusers can tolerate a slightly greater reverberation time. This is especially good for musical reception, since the ear tends to accept a certain amount of reflected sound, apparently because it tends to improve the quality of the music. Polycylindrical diffusers are primarily for musical broadcasting, and screens or other absorbers must be added for good speech broadcasting.

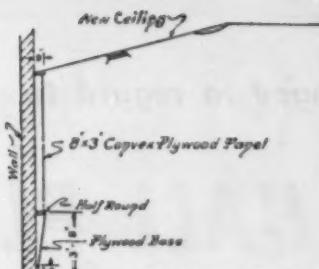
Polycylindrical panels overcome an objection to ordinary acoustical treatments because they have the particular property of acting as absorbers of the low frequencies and reflectors of the high.

Energy reradiated from these diffusers does not follow the regular law of equal angle of incidence and reflection but because of panel vibration acts more like a loud-speaker dia-





Typical Section-North & South Walls



Typical Section-East & West Walls

The illustration above shows construction details of horizontal convex panels. Right, are construction details of vertical panels.

phragm. In this sense, walls surrounding a group of musical instruments may be considered an extension of the instruments—an extension which, although loosely coupled to the sources of sound, nevertheless emphasizes many of the frequency components sufficiently to lend pleasant support to the music. It is the sounding board again—a device that magnifies the tonal area of the instruments by creating sustaining surface sources in proximity to a relative point source.

The advantages of convex wood panels may be summarized as follows: (1) the interference effect between direct and reflected sound is reduced by lowering of the intensity level; (2) a greater reverberation time without echoes is permitted; (3) high frequencies are not absorbed more than low frequencies; (4) surface sources of sound giving a pleasing reinforcement of sound to the listener are created.

To this list of advantages might well be added that of appearance, for the University of Kentucky studio definitely has a world-of-tomorrow look. It was designed by the university maintenance and operations department under the guidance of E. B. Farris and was constructed under his supervision. Use was made of four tones of green in combination with gray and yellow for the color scheme.

The new studio is the largest of the three main studios in the University of Kentucky layout and is known as studio A. The station is located on the top floor of McVey Hall and occupies three-fourths of the total floor area. The new studio was constructed in the space occupied by the old studio A by lowering the ceiling level and by constructing new walls for two classrooms at one end. An entirely new heating system was installed for the whole upper floor at the time, and a new shop room, control room, staff room,

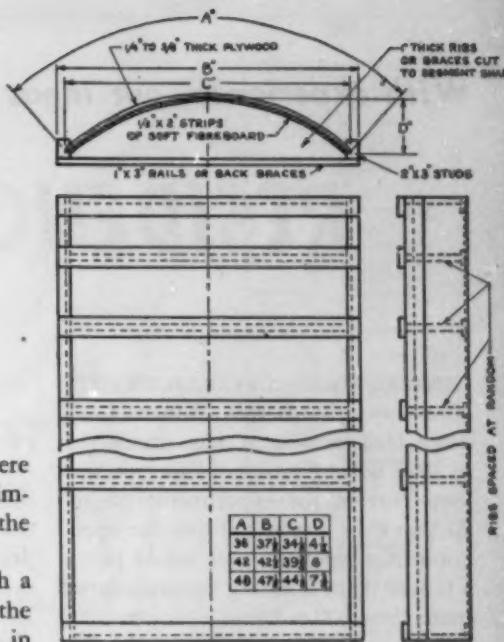
and record room for the station were constructed. For this reason, it is impossible to estimate the cost of the construction of studio A alone.

The studio is 45 by 52 feet, with a ceiling sloping from 11 feet at the edges to a center panel 15 feet in height. Each of the two long sides contains four windows, which are covered with venetian blinds to provide some dispersion effect. Technically, it would have been better to eliminate the windows, but this would have entailed installation of air conditioning equipment, which was not deemed economical. Between the windows are two vertical convex panels, each 36 inches wide, and between the end windows and the corners are two more vertical panels.

GET MAXIMUM DISPERSION

Both ends of the room consist of two horizontal 48 inch convex panels. (The construction details of these panels are shown in the illustration above.) The axes of these convex panels are at right angles to each other in order to obtain maximum dispersion. On each of the four sides of the room there is a panel of corrugated plywood, extending from the floor to a height of 3 feet 8 inches and sloping outward from the floor. This type of panel was designed to protect the convex panels from damage from furniture, although it is an excellent diffuser as well.

The convex panels are braced by strips of wood spaced irregularly to avoid a pronounced selective low-frequency absorption by the panels. It is interesting to note in this connection that convex wood panels do not have just one resonance frequency, but several. Tests have shown that these frequencies are not harmonically related but depend on a great number of factors, such as the damping coefficient of the material, thickness, spacing of



braces, and method of mounting the entire panel.

At one end of the studio is a control booth that projects 3 feet into the studio. The walls of the booth contain three thicknesses of curved glass window. At the other end of the studio, three tiers of risers are constructed for orchestra and band seating.

Since it is obviously impractical to carry the convex panel idea onto floor construction, it is necessary to provide acoustical treatment by the use of carpets or other floor covering. In this case, the flooring is of 3/16 inch asphalt tile in dark mottled green with a cream border. In the center of the floor, the letters WBKY are inlaid in cream.

The ceiling slopes up from each of the four walls to a flat panel in the center. All of the sloping area is of hard plaster with no other acoustical treatment, and this much plaster area is unusual for prevailing studios. The center flat panel is covered with a mechanically perforated absorbent material.

Lighting is provided by six banks of fluorescent tubes located flush with the ceiling. Four 300 watt spotlights in each corner of the ceiling provide dramatic effect for programs.

Although no technical performance tests have been made at this time as to the length of the reverberation period for various frequencies, some are planned for the near future. At present the only judge of the success of the design is the listener himself, and the general opinion is that the acoustics are excellent.

With experience, our ideas changed in regard to

RESIDENCE HALL PLANNING

CENTRAL MICHIGAN COLLEGE'S FIRST dormitory, the Bertha Ronan Residence Hall for women, was constructed in 1922 when housing of this type was somewhat in the experimental stage. At that time, it was felt that the operation of a residence hall would prove a failure if the building accommodated more than 100 women.

Architects and engineers argued that the per capita cost for such a small unit made it highly impractical. A compromise was finally reached. A two-wing unit housing 100 girls in each wing, with a common lounge and dining hall between, was designed. Plans at that time called for two

N. C. BOVEE
Business Manager
Central Michigan College of Education

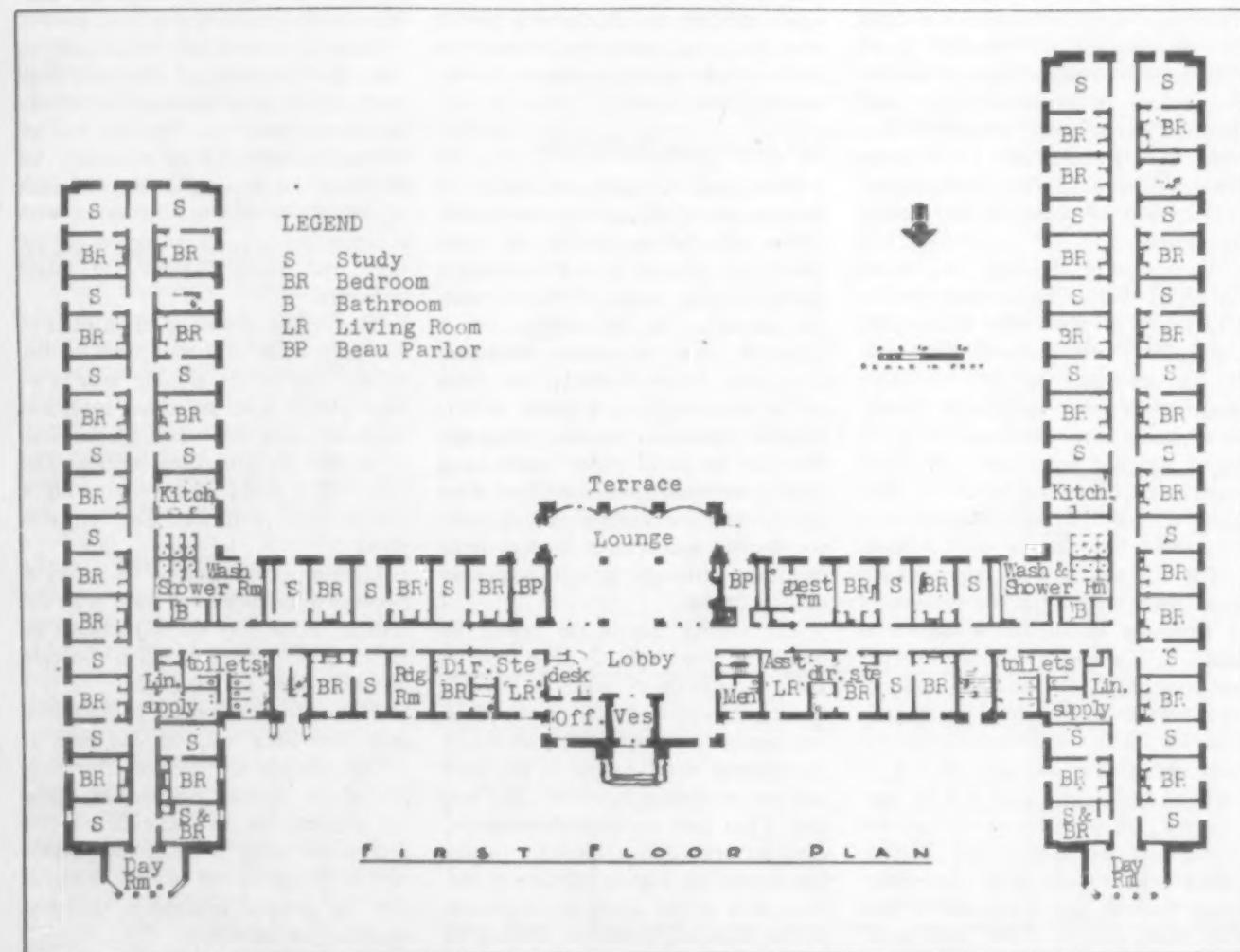
directors, one for each wing, and only one entrance and exit door for residents. It was soon discovered, however, that only one director was needed and that it was unnecessary to make all residents enter the building through one door.

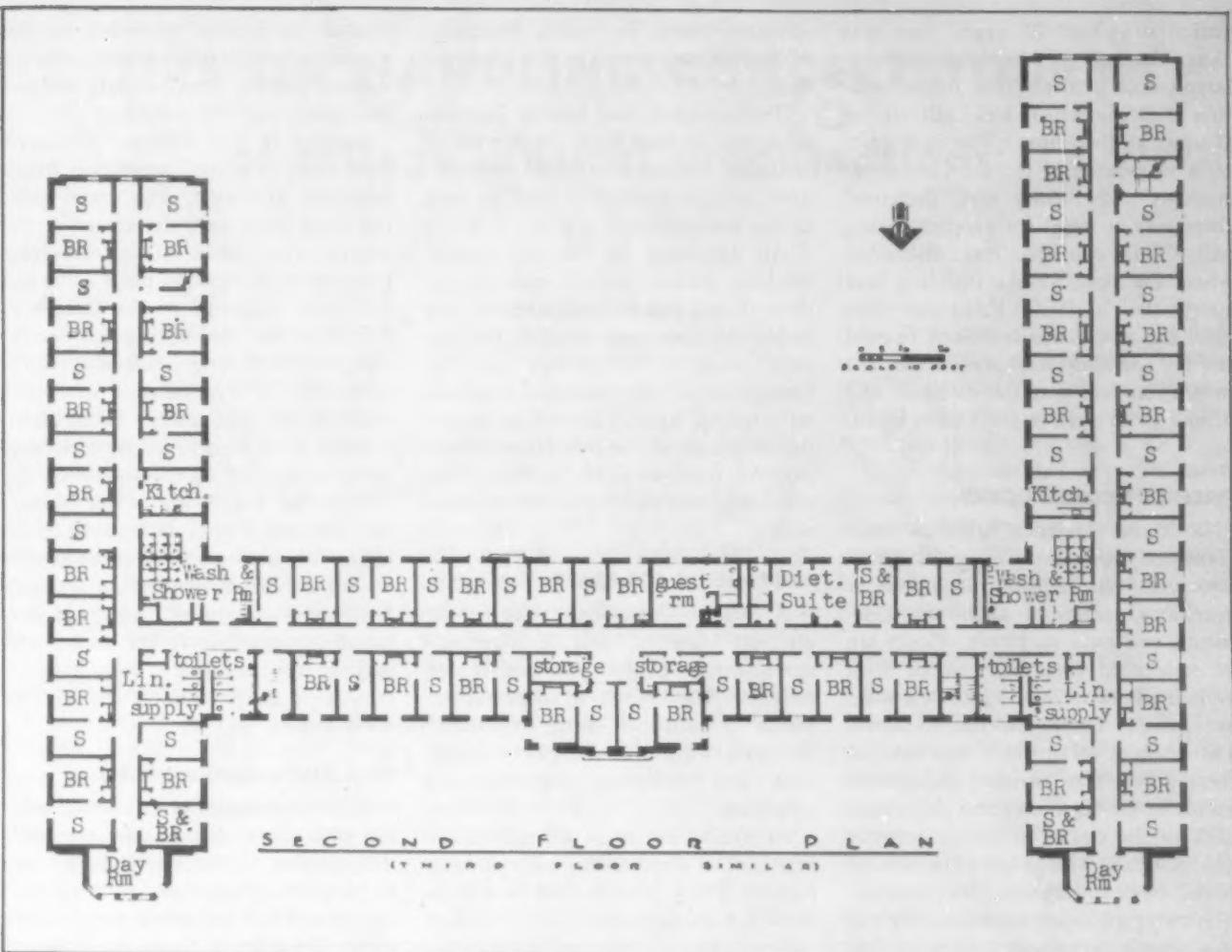
This unit is of brick fireproof construction with large roomy corridors and stairways. Each room is designed for a normal occupancy of two girls and has one common clothes closet. The dormitory units added since 1922

have followed the one-room-for-two residents plan with variations.

Keeler Residence Hall for 90 men, which is one wing of Keeler Union Building, was completed in 1939. Rooms in this unit are somewhat smaller than in Ronan Hall; ceilings are lower and soundproofed; wood-work is light oak rather than dark mahogany; one clothes closet is provided for each resident, and a lavatory and medicine chest are provided in each room.

In Sloan Residence Hall for 150 women, constructed in 1941, more modern developments were incorporated. There are more variations in





room sizes and designs; steel casement windows are used rather than wood; there is much less woodwork, and it is of lighter oak finish; all dressers and mirrors are built in, and all lounge and room furnishings are of the modern design.

SERVES THREEFOLD PURPOSE

Sloan Hall is somewhat unique in that it serves a threefold purpose. The first floor of one wing is completely cut off from the rest of the building and houses an ultramodern college health service. There are accommodations for 12 bed patients, and the unit is equipped with the most modern hospital equipment, including x-ray, whirlpool and diathermy. The basement area under the opposite wing serves as an annex to the Union Building. Two large recreation rooms, kitchenette, checkroom, three committee rooms, and a student office room help in meeting the heavy demands made by student social groups for meeting space. This section can be entered directly from the outside and is completely segregated from the rest of the building.

In the years prior to the war, a continual study of housing and feeding programs was made by the college and its architect, Roger Allen of Grand Rapids, Mich. It finally was decided that the two-room suite type of residence hall has tremendous advantages over the one-room type of unit. A suite with bedroom and study room allows the residents much more freedom in their living habits. Each room can be closed off completely, and proper space is allotted for both sleeping and studying. More space is allowed for each resident, and a greater home-like atmosphere can be developed. Properly planned, this type of unit can be built for little more than the conventional one-room unit.

With these thoughts in mind, blueprints for a new 250 bed girls' residence hall and an additional wing on the men's were drawn up in the early years of the war. In addition, plans were also made for a new foods commons for all women residents and an addition to the food service wing of the Union Building to provide for a men's dining hall.

Each suite is equipped with twin

beds, built-in dressers, bed stands, lamps, study desk, bookshelves, easy chairs, and study chairs. Woodwork is light oak; furniture, a sunburnt oak finish. Colorful monk's cloth draperies and asphalt tile floors give the rooms a cheerful appearance.

COSTS CHANGE PLANS

Construction on the girls' residence hall and foods commons was started just as soon as possible after the close of the war. Construction costs ran so high that now it is anticipated that the two additional wings on the Union Building will not be built for a period of five to six years, or until costs are somewhat lower.

The new residence hall was placed directly behind Ronan Residence Hall and the three girls' dormitories on the campus now form a half rectangle. The new foods commons was built in the center of this rectangle and connected to all three dormitories with covered passageways.

At the time Ronan Residence Hall was constructed in 1922, a dining hall and kitchen were provided in this unit. This was operated for a

period of 10 to 11 years, then was closed because of the addition of a large cafeteria in the new Administration Building which was built on the campus at that time. The new cafeteria was designed to take care of all students and faculty and, therefore, there was no need for another dining hall. This cafeteria was disbanded when the new Union Building was constructed in 1939. From that time until the new foods commons opened last fall, the only food service that the institution had was the cafeteria and dining room areas in the Union Building.

FIREPROOF CONSTRUCTION

Both the residence hall and foods commons are completely fireproof structures with gypsum block interior partitions, steel and aluminum casements, and steel stairways. Floors are of reinforced concrete, covered with asphalt tile or terrazzo. Finished walls are plaster, except in the lavatories and kitchen; ceramic tile was used in these areas. The corridors and special rooms in the dormitory and the dining halls in the commons are of acoustic tile. Kitchen ceilings are of acoustical board; other ceiling areas are plastered.

A two-pipe vapor steam heating system is used throughout both buildings, with the exception of the lounge area in the residence hall, which is equipped with a forced warm air system. There is forced ventilation in the dishwashing rooms, garbage room, kitchen, bakery, shower rooms, toilet rooms, laundry, kitchenettes and wardrobes.

Recessed, incandescent lighting is used in the dining rooms; indirect cove fluorescent lighting in the lounges.

TELEPHONE IN EACH ROOM

Each room is equipped with a private house telephone and annunciator system. The food building has a service elevator of the hydraulic lift type from the basement to the first floor.

Refrigerated space for food storage consists of three walk-in boxes in the basement, one frozen foods unit, one vegetable storage box, one dairy storage box, and one meat storage box. There is one walk-in box as well as several reach-in fixtures in the kitchen area.

The kitchen in the foods commons building is large enough to serve three dining halls, and the bakery has sufficient equipment to handle baking for

all of the college food units. Normally, 1800 meals are served in this food unit daily.

The residence hall has six kitchenettes, two on each floor, for the use of residents for snack lunches. A three-unit package kitchen is used in each of the kitchenettes.

All furniture in the day rooms, smoking rooms, and in each of the three dining rooms is of sunburnt oak finish, the same as is used in the student rooms. Furnishings in the lounges consist of overstuffed furniture with special tapestry coverings, matching draperies, and shuttle point carpeting. All windows in the building have draperies mounted on heavy traverse rods.

APARTMENTS FOR STAFF

A director's apartment, one for an assistant director, and a dietitian's apartment have been provided in the residence hall. Each of these apartments is furnished with overstuffed furniture with special tapestry coverings, and matching draperies and carpeting.

Adjoining the main lounge on the first floor of the building are two beau parlors. These beau parlors, as well as the main lounge, open onto a quarry tile terrace that is covered with a canvas awning.

A day room or smoking room, equipped with easy chairs, library tables, radio, ash trays, lamps and other lounge furniture, is located at the end of each north and south corridor.

Adequate laundry and recreation rooms, together with trunk storage rooms, janitor closets, and work shops, are provided in the basement under the east wing.

There is a separate dining room for each residence hall in the foods commons building. Total seating capacity in these three dining rooms is 600, and this takes care of the normal occupancy of each dormitory. During the present emergency period, double shifts are run in each dining hall in order to take care of the number housed in each unit. Each dormitory is connected with the foods commons building by a covered passageway, and washrooms have been made available outside of the dining room area at the end of these passageways. In general, all residents enter the foods commons building through the covered passageway from their respective dormitories. However, three separate entrances

have been provided to the commons building for students who go directly into the food building without first going into the dormitory.

Serving in two different directions from one kitchen presented many problems in design. The main cooking takes place near the center of the kitchen area, while all of the food preparation work takes place along the wall areas adjacent to the bakeshop. The basement below the kitchen is equipped with large walk-in refrigerators, plus food preparation sinks and meat cutting equipment. In addition, a large food storage room has been provided and all of the foodstuffs for the various food units in the institution are stored here. It is easily accessible with both an elevator and stairway directly from the kitchen, and also from the loading dock. Adequate provision for employee locker rooms and garbage disposal space was designed outside of the kitchen in the loading dock area.

TWO DISHWASHING ROOMS

In order to avoid cross lines of traffic with dirty dishes, two complete dishwashing rooms were set up—one to take care of the two adjoining dining rooms and the other to take care of the larger single dining room, which seats 250 people.

With the opening of the new residence hall last fall, there is normal housing space for approximately 600 women in three girls' dormitories, 90 men in one permanent men's dormitory, and 144 veterans in temporary dormitories, for a total of approximately 834 spaces. All rooms, however, with the exception of the rooms in Sloan Residence Hall, have been double decked during the emergency period. Three people are housed in each room in Sloan Residence Hall. Since the fall of 1948, therefore, approximately 1122 women and 180 men have been housed in permanent dormitories. In addition, 288 veterans are housed in temporary units, for a total of 1590. In addition to this, there is a married veterans' housing project which takes care of 88 families. Within the next five to 10 year period we expect to build a fourth girls' residence hall and a second one for men to replace the present temporary units now in use. Studies are also being made to determine the most feasible method of providing faculty housing, of which we have none at the present time.

TIPS ON HANDLING CONCERT TOURS

of college musical organizations

THE MANAGEMENT OF UNIVERSITY musical organizations involves the following factors: the faculty manager, the booking of concerts and engagements, the promotion of local appearances, aid to local agents in other cities to promote the concerts of the university organizations, special problems of touring organizations, and supervising finances. This article builds its discussion of the problems of the faculty manager around these factors.

FACULTY MANAGER

Professional orchestras usually have full-time managers to conduct their business affairs. Most universities have either part-time or full-time managers. Usually a faculty member handles the business affairs of one or more of the school's traveling organizations. It is highly desirable to have such a faculty member continue contacts from year to year. Since such faculty members usually have other duties, it is imperative that much thought be given to the internal organization of each touring group. The traveling organization should have its usual officers, such as president, vice president, secretary and treasurer, together with various committees.

A student manager and a student publicity man are invaluable and work in close cooperation with the faculty manager, who can then, at the beginning of each period of activity, sit down with the director and certain key student personnel to work out in detail the plans for the coming season. These, then, can be stencil-duplicated and distributed to all concerned so that each may be aware of his duties and responsibilities.

BOOKING ENGAGEMENTS

An old adage says, "A thing well bought is half sold." The same could be said of university musical groups. An organization that is top-notch in quality, that has popular appeal, that is in some small way different from a thousand others, is much easier to book than just another choir, glee club, or

HARM HARMS

Capital University
Columbus, Ohio

orchestra. An organization rightfully cannot take up the time (and money) of a thousand or so listeners without contributing definitely to their esthetic and emotional well-being. The first question that should be asked of any group thinking about making a tour well might be, "Is the group worthy of the public's time and attention?"

If the organization is associated with a church-supported institution, the logical source for bookings is through the congregations affiliated with this church. It should not be inferred, however, that even in such cases the contacts should be limited to institutions of such denominational attachment.

When the organization has sufficient merit and distinctiveness, it can frequently be booked through the regular local concert manager or the committee in charge of community concerts.

There are instances when it might be advisable to hire the services of a professional booking agent who knows the territory. The expense of such an agent is often less than when these services are performed by the university manager. Economies, therefore, may be effected by such an arrangement. Under such a plan it frequently is necessary for the university to fill open dates for which the professional booker has no takers.

Rotary, Kiwanis, Lions and other service clubs usually have one or two outstanding musical programs a year. Even though their budgets are not high, it often is possible to use these organizations to fill in open dates. Public schools frequently book outside musical organizations to inspire the local student musicians and so help to build up the public school music program.

Universities usually have a mutual understanding whereby an exchange of concerts is arranged similar to a plan used by the athletic department in scheduling basketball games. Organiza-

tions that tour during the summer will not want to overlook summer schools, particularly teachers colleges. These institutions usually have a budget for this specific purpose.

Other contacts that at times have proved valuable in booking university organizations are fraternal groups, conventions, clubs of various kinds, brotherhoods, political groups, and camp meetings.

PROMOTING LOCAL CONCERTS

Promotion problems are much the same whether encountered by the faculty manager when handling the local concerts of his own organization or whether a solution is attempted by a person in another city who is promoting one of the concerts of the group while on tour. Except in cases of professional management, the chances are that the university faculty member is better trained and better informed on promotional procedures and policies than are the out-of-town sponsors; therefore, the faculty manager can and should be of assistance in helping to make the appearances of his organization a success. Space does not permit including a complete copy of such a promotion plan, but the following suggestions are indicative of what I have in mind.

The Press. All local dailies and community weeklies covering the radius of patronage should be supplied with ample materials, such as pictures, maps, press releases, human interest stories, and local contact stories linking some local individual intimately with the organization. Every effort should be made to obtain copy that actually has news value, not just segments from the organization's halo.

Paid newspaper advertising should be used with great caution. If paid display ads are used, it sometimes is possible to find a local individual to underwrite them. If not, a definite percentage of either the fee or anticipated receipts should be established.

Radio. Copy should be supplied to all newscasters and commentators cov-

ering the metropolitan areas. Interviews can be arranged; recordings of the organization can be played and commented upon. In some cases an outstanding local musician may discuss the program, thus giving it life and vitality and, at the same time, inspiring the listeners to come and hear the organization.

Direct by Mail. The mailing list should be made up of prospects who are interested in at least the general type of organization being presented. It would be folly, for example, to include in your schedule a list picked up from a local fight promoter.

Outdoor Display. The effectiveness of window cards frequently has been questioned. I have been unable to find any reliable research on the matter. Suffice to say, however, that the window cards, if used, should be carefully placed in the shopping centers and in store windows where they will do the maximum good. One card correctly placed frequently will do the service of 50 placed at random. A dozen cards placed in the vicinity of each community theater will ensure proper distribution. Some organizations have used outside streetcar advertising and banners with a degree of success.

Tickets. There is a strong psychological pull in actually having a ticket even if the event is free. In my opinion, the reserved seat ticket is much more effective than the general admission ticket.

Personal Contact. The most that your radio, newspaper, direct by mail, and outdoor display can do is to bring the concert to the prospective ticket buyer's attention. Even though he is saturated with information concerning the Podunk a capella choir and even though he likes music, he still may need a push to get him over the line. Here's where the personal factor comes in.

Ticket selling groups should be well organized with a dynamic person in charge. If the soil has been prepared by the various aforementioned types of advertising, personal solicitation is then made more enjoyable and more effective. People are used to having someone ask them to buy tickets. There should be some organization, therefore, to cash in on the advertising program. A few top-notch nationally known attractions can announce their presence in the neighborhood and, ipso facto, draw a full house—such groups generally are not found on the university campus. The university

manager owes it to the organization that books his artists to supply this local manager with the necessary concert materials, circulars, dodgers, window cards, press books and mats. It is imperative that these materials be in the local manager's hands at least a month to six weeks before concert time.

SPECIAL TOURING PROBLEMS

It is estimated that fully 90 per cent of all university organizations travel by bus. Sometimes the railway is used; on rare occasions, the airplane. The advantage of bus transportation readily can be seen in that the bus can pick up the group at the point of departure and can deliver it directly to the auditorium. Bus companies have their own insurance, which simplifies the matter for the university.

If additional cars are used to augment the capacity of the bus, the matter of insurance must be checked carefully. The university should investigate whether the broad university policy covers such liability. If not, special short-term insurance can be arranged to cover the specific occasion. Insurance policies that protect the luggage and belongings of students on tour are available.

The touring group should be carefully organized for the trip. The following committees are suggested: committee on platforms; committee on baggage; housing committee; social committee to take care of parties and special dinners en route; bus committee to see that everyone gets on and off the bus on time; program committee; correspondence committee; editorial committee for paper published on tour; robe committee; nurse and librarian.

The executive committee consists of the director, assistant director, manager, assistant manager, and two or three members chosen by the organization.

It is not fair to the local sponsor who has gone to great odds to fill the house for the incoming group not to have an assistant director who can take over in case of emergency. The question of what to do in case the director becomes ill should be answered *before* the group leaves the campus.

FINANCES

Most student organizations receive their funds through activities, single tax or whatever the cognomen may be. These funds, in part, finance their ac-

tivities. To these are added the receipts from local concerts and from those on tour. On long extended trips, the members of the traveling organization frequently are asked to make contributions ranging from \$25 to \$100 to help finance the tour. It is not uncommon for a local community to provide a purse to help finance the venture.

The bus company can be paid by a check, issued directly from the treasurer's office upon receipt of the invoice. Whenever possible, meals should be estimated in advance, and a check for the total should be drawn and each member paid his share. A credit card may be arranged so that most hotel expenses also can be paid by check. Other necessary expenses can be handled through petty cash, for which expenditures special forms should be supplied.

Immediately following the trip all expenses pertaining to it and not yet paid should be paid as soon as possible, and petty cash funds turned in to the treasurer's office. A detailed report of the venture should be made and filed for future reference.

IT CAN BE DONE

Several years ago the National Music Supervisors' convention was held in St. Louis. The little town of Joplin, Mo., sent several musical organizations to the convention. These organizations gave outstanding performances on various convention programs. The question in everyone's mind was, "What does Joplin have that we haven't?" Some years ago Columbia City, Ind., received wide recognition for its outstanding band. It is probably safe to say that the citizens of Columbia City have no particular corner on musical talent.

I have investigated many cases of this kind and in each instance have found that in the background there is generally a dynamic, musical personality who loves young people and who is sold on the idea that if they are properly inspired and given the opportunity, results are bound to follow.

The same thing is true on the college campus. If the college is to have outstanding musical organizations, the first requirement is a well trained and enthusiastic leader. Such musical endeavors should start in a small way so that enthusiasm, musical appreciation, and ability to finance may develop hand in hand. In this way a permanent, solid-to-the-core organization will be effected.



What you can be doing about

PUBLIC RELATIONS

INCREASING INTEREST IN THE FIELD of public relations is a good omen, and the activity being shown by educational institutions is indeed heartening.

We have a long way to go, however, as there are still many hundreds of schools that shudder at the slight extra cost involved in meeting the public, while others simply are not convinced that any kind of a selling job is necessary. The former type eventually will see the way and organize some kind of program, but schools in the latter category likely will wait until the pinch arrives and the majority of veterans complete their studies. Then it will be too late.

Prior to World War II, schools and colleges were beginning to realize the import of public relations, but it is now apparent that unless more concentrate on a definite program, industry and business will soon far surpass education's efforts. One has only to survey some of the literature and outlines of industrial programs now under way to be convinced of this point.

PUBLICITY ONLY ONE SEGMENT

One of the obstacles that appears to confront educators at the moment is that there seems to be a philosophy in many quarters that public relations is merely publicity and that if a school can get adequate publicity, it will have a well rounded and successful public relations program. In reality, publicity is but one of the important segments of institutional endeavor but, as important as it is, it cannot hope to produce the only ingredients that comprise the over-all public relations recipe.

Merely changing the name of a publicity department to a department of public relations, as many have done, is not the answer. There is just as much apathy and suspicion attached to the term "public relations" as there used to be to the term "publicity," and it is

the responsibility of those guiding educational endeavors to show that something new and worthwhile has been added.

For this reason we must establish "programs" and not "offices." To do otherwise will lead only to failure while adding considerable expense to the yearly budget. Dr. Marvin M. Black, director of public relations at the University of Mississippi, is one who is doing something about a definite program and has summarized the work of his department in a public relations handbook.

In other words, I am attempting to point out that good public relations is a way of life for an institution and the best public relations is devised and devoted to obtaining the best impressions and results over a long period of time. Public relations is policy and practice. It is the sum total of the efforts of all personnel and departments.

In considering the question, "What are *you* doing about public relations?" it will be the purpose here to attempt to classify some of the recent literature of industry and business and show how easily it can be adapted and related to our own problems. After all, students *are* our customers, faculty members *are* our employees, parents and friends *are* our store related constituency, alumni *are* our stock in trade, and the community *is* our market place. Some of the larger colleges are already capitalizing on procedures being developed and used to advantage by business interests, and other institutions can follow suit.

Let us look at some of the literature that brings the problems of public relations to our own doorstep and

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Occidental College

consider some of the channels through which we work:

1. What are you doing about faculty and staff relations?

Business and industrial leaders are doing their utmost to interest employees in the firm for which they work. In this connection you may be interested in "Your Mutual Life," a handbook for employees published by the Mutual Life Insurance Company of New York, and in the booklet "In Step With Naugatuck Footwear Plant," issued by the United States Rubber Company. Both pamphlets explain what it means to be connected with the concern, at the same time selling the firm to the employee.

The Coca-Cola Company is also doing a real sales job. The company magazine, the *Red Barrel*, is tops in explaining, analyzing, educating and encouraging employees to greater efforts month after month. The company apparently recognizes the fact that first you must have a good organization and set your own house in order before you can hope to influence others.

Following the same pattern, Northwestern University is attempting to encourage faculty participation and keep all staff members informed of what is going on through regular bulletins entitled *Report to the Faculties*. A similar service is that of the *University Staff Letter* issued weekly by the University of Idaho. Other institutions have recognized the problems involved and are endeavoring to inform staff members through publication of a yearly faculty booklet. Good examples of this approach include the "Extension Instructor's Handbook," issued by Pennsylvania State College;

the "Manual for Teachers," published by Fullerton (Calif.) Junior College; "The Faculty Handbook" of Stephens College, and the "Employes' Handbook" of the University of Wisconsin.

Administrators interested in this phase of public relations may get some pointers from a booklet on planning effective employe handbooks issued by the National Board of Fire Underwriters of New York.

2. *What are you doing in the way of keeping parents of the college informed?*

Industrial and business institutions recognize the value of constant customer and prospective customer contacts and are doing everything possible to keep their friends well informed of current developments. One of the outstanding examples is the effort of John A. Hartford, president of the Great Atlantic and Pacific Tea Company, to reach customers through a public relations advertisement headed: "If you were the president of A. & P. . . . what would you do to make your A. & P. a better place to shop?"

Another approach is that of the Title Insurance and Trust Company, Los Angeles, which takes friends "Behind the Scenes" in a booklet by that name. The F. E. Myers & Bro. Company of Ashland, Ohio, devotes separate issues of its *Myers News* to plans for an open house event, stressing the theme "Welcome to Our Visitors." Helpful information about a particular concern is sponsored by the Pacific Telephone and Telegraph Company and entitled "ABC's of Placing Telephone Calls." In this publication the company makes a direct bid to each individual to help himself to better service. A second pamphlet is headed "Are You Making Friends Through Your Telephone?"

One of the unique methods of reaching friends is that practiced by the Dana Jones Company, an advertising agency. The concern issues an occasional pamphlet known as "Mister Jones' Journal," which is produced in "a strictly limited edition." The back cover of one issue carries the thought-provoking headline, "Good Private Relations Make Good Public Relations," and reads:

"It takes a lot of money to acquire and keep a customer. Then why do so many businesses overlook the simple human things that would make it easier for folks to do business with them? A million dollars' worth of advertising

cannot overcome entirely the handicaps of poor telephone service, unpleasant salesmen, an unsympathetic service department, crude delivery men, or a rough credit policy.

"We know some bosses whose courtesy, friendliness and fair-mindedness have spread all through their organizations to the point where customers and suppliers feel it. We would bet that it costs them less in advertising effort to win and keep customers than some others we have heard about."

Colleges and universities could adapt this type of material and approach to their own use and pursue similar avenues in contacting friends, parents, donors and others.

3. *What are you doing to promote better community relationships?*

Although many schools have already formed committees to work within their own areas, it has remained for industry again to point the way in getting institutional ideas before the people. A clever presentation is that of the Santa Fe Railroad which has summarized its "philosophy of progress" in a little booklet, "People Expect the Best of Santa Fe." The New York Central System is also a leader in this respect, with considerable literature designed for customer consumption.

In Pasadena, Calif., the Turner & Stevens Company, funeral directors, annually issues a booklet that any college would take pride in sponsoring. The publication is a "Pasadena Organization Directory" and is one that has proved of great usefulness to all civic workers in that city. These items all give rise to related ideas that schools might develop, looking toward added community service.

4. *What are you doing about future planning in regard to your own college literature?*

Distinctive literature is something that all institutions should strive to produce as they must compete, in the public eye, with that being produced by larger and more experienced business firms. Recent industrial literature not only contains challenging messages but is so attractive that it commands immediate attention. Examples include "Men and Mills," published by the Great Lakes Steel Corporation; "Fifty Billion Records Can't Be Wrong" by the Recordake Corporation of New York; "Sixty Years of Paper Progress" by the Nekoosa-Edwards Pa-

per Company of Wisconsin, and the surveys entitled "Consumer Analysis," published by the *Columbus Dispatch* and the *Indianapolis Star*.

Quality literature can be obtained only after a great deal of study, and it must somehow reflect the character of the institution. Two of the finest brochures that have come to my attention in the college field include the first pamphlet launching the development program of Loyola University, Chicago, and the attractive brochure, "Today and Tomorrow," issued by the Illinois Institute of Technology.

The annual report of the president of the college, the alumni magazine, and the miscellaneous bulletins issued throughout the year, all help greatly in interpreting the institution to friends and prospective students. These publications should be the best possible.

Your office stationery alone is something that should command adequate consideration as it is often the first and, sometimes, the only contact a person will have with your school. Although printing prices have increased greatly, it is still better economy to produce less literature of good quality than a lot of poor literature of questionable character.

Aside from this attempt to show wherein the colleges may profit from a perusal of published material, two other avenues of contact deserve the immediate attention of educators.

5. *What are you doing about alumni activities?*

Reports of the American Alumni Council indicate that only about one-third of the institutions in the nation maintain memberships in that organization, while only about one-tenth of the country's colleges have established alumni funds.

I feel certain that all college administrators recognize the importance of alumni activities and would readily admit that there would be no colleges if there were no alumni. Why then are we so lax in expanding this important phase of our work? One other part of the program that is being neglected is that of indoctrinating undergraduates and keeping them informed as to the services rendered students following graduation. If colleges cannot arrange to cultivate students when they are on the campus during two, three, four or more years, how can they ever expect to have aggressive and effective alumni groups?



6. *What are you doing to promote and expand adult education?*

Although the majority of courses and activities within this classification are closely related to the public school area, there still remains much to be done in the college field. One of the fundamentals of industrial management is to keep all facilities and plants in operation at all possible times in an effort to reduce overhead. How many hours during the day and evening are your classrooms idle? How many requests have you had for certain courses or certain services that you have refused because they involved evening labor? Do you feel that your institution would be a better institution if it would endeavor to serve more people more hours per day? Empty classrooms today are a challenge to every college administrator.

To meet the demand in Columbus, and at the same time to focus the public mind on evening offerings, Ohio State University established a "twilight school" a few years ago, and this effort is now recognized as one of the outstanding services extended by the institution. Many of the larger universities endeavor to meet this problem not only on their own campus but in neighboring communities by setting up extension divisions. Pennsylvania State College, the University of Wisconsin, and the widespread junior col-

lege movement in the various states are good examples.

While recognizing the fact that similar procedures are followed by most of the major institutions, there is still ample opportunity in the evening field for the smaller schools and the liberal arts colleges. Higher institutions should do more for adults who are eager and willing to take an occasional class in various departments of instruction. Idle classrooms are not conducive to good public relations, nor do they attract donors.

This article was not planned as a scholarly presentation aimed at curing the ills that exist in the field of college public relations. Neither was it designed or written in a critical vein. Its sole purpose is to try to point out that what can be done by business can also be accomplished by others. No one area of effort has a corner on this problem of "making friends and influencing people."

The field of college public relations is wide open for cultivation, and great care must be taken in sowing the crops. There is much to be done, and it is going to take the combined effort of all personnel in a given institution to accomplish the task. Perhaps these remarks can best be summarized by citing several of the points outlined by

Idle classrooms are not conducive to good public relations.

Harold K. Schellenger, director of the department of public relations of the Byer and Bowman Advertising Agency, Columbus, Ohio, while discussing his rôle as a parent in a talk before the American College Public Relations Association:

"I want my boy to attend a college which can:

"1. Give me assurance that its administrators and faculty have an educational program as well as a building program.

"2. Offer me evidence that the college itself has as high a degree of individual skills and teamwork among its staff as it expects from its football team.

"3. Convince me that it has the ability and the facility, based on sound research, to give my son guidance."

Therein lies a great challenge for all administrators attempting to "sell" their institutions to the people. Yes, it will take publicity. Yes, it will take good general and specific literature. But, most of all, it will take a well developed, coordinated program to supply answers that will satisfy men like Mr. Schellenger.

Business and industry are already on the march with well organized and practical programs. What are *you* doing about public relations?

BOND ISSUES BY STATE COLLEGES



M. M. CHAMBERS
American Council on Education

THE CUSTOM OF BORROWING TO erect and equip "self-liquidating" college buildings by selling bonds payable out of the anticipated income to be derived from the operation of the buildings is now a quarter of a century old and has been authorized by the legislatures and approved by the courts in many states. New questions, however, continue to arise in new sets of circumstances. A utility, such as a heating plant, power plant, or water supply system, may be "self-liquidating" if fees can be charged to students and other users of its product. Just such a scheme was authorized by the Oklahoma legislature in an act under which the Oklahoma Agricultural and Mechanical College at Stillwater issued \$3,000,000 "Utility System Revenue Bonds, Series 1948," for the construction of a new heating and power plant and water supply system.

COLLEGE AND CITY COOPERATE

The statute empowers the regents of the college to use this method of financing facilities to meet the current and reasonably anticipated future needs of the institution, but not in excess thereof. Recognizing that future needs could be expected to be substantially greater than those of the present, it also specifically authorizes the college to sell temporary surpluses of water, beyond the immediate needs of its own personnel, to the public.

Under this authorization the college negotiated a contract with the city of Stillwater, for a period of 25 years with privilege of renewal, whereby it is agreed that the city will pay the college a minimum of \$76,000 annu-

ally for water and the college will deliver not exceeding 6,000,000 gallons per day.

A copy of this contract, together with an engineer's survey of the water needs of the college, was in evidence when the supreme court of the state was asked to approve the bond issue. The decision was affirmative, but only by vote of six of the justices, as against three who vigorously dissented.

The majority opinion, written by Justice Welch with five of his colleagues concurring, found that all the acts of the regents of the college in this matter were in accord with the terms of the authorizing statute.¹ The three dissenters, led by Justice Gibson, expressed themselves vehemently to the contrary. "No words can sufficiently describe the nature and purpose of the bond proceedings and at the same time conceal the fact that the water supply system is being acquired and erected to supply the needs of the city of Stillwater as well as those of the college," wrote Justice Gibson.

On the student fee angle, he continued: "Never before has it been held that a student fee may be imposed for the part payment of the cost of construction of a utility erected for the purpose of supplying the water needs of the students and in addition the water needs of a city for a period of 25 years with renewal privileges."

The logic of the dissent seems irrefutable, but, as frequently happens in human affairs, it may be fortunate that

¹Application of Board of Regents, Oklahoma Agricultural and Mechanical College, (Okla.), 200 P. 2d 901 (1948).

logic did not prevail. As a practical matter, the new plant will be of great advantage both to the college and to the city, serving the needs of the entire community at low cost and with maximum protection of the public health.

ARKANSAS STATE COLLEGE CASE

A decision somewhat less liberal in tendency was made by the supreme court of Arkansas. The board of trustees of Arkansas State College at Jonesboro planned to erect a dozen dwellings to be rented to members of its faculty. There was no obstacle to pledging the net revenues from rentals of these houses for the payment of bonds sold to finance their construction; but an injunction was sought by a taxpayer to prevent the board from contracting further with the purchasers of the bonds to the effect that, if necessary to prevent default, the board would use any surplus in excess of \$9000 accruing from revenues of other buildings earlier constructed as self-liquidating projects.

The court scanned the legislative act of 1947 in which the bond issue was authorized and found therein no specific authority to pledge anything other than the anticipated income from the buildings to be erected. Moreover, some of the words of the statute were susceptible of interpretation as an implied prohibition of pledging anything additional. The history of the statute and the experience of the court in dealing with similar matters involving other educational institutions of the state were thought to indicate that the petition for an injunction against the board of trustees should be sustained. Accordingly, a lower court judgment in favor of the board was reversed and remanded with direction to proceed in accord with this view.²

Regarding the foregoing matters as controlling and decisive, the court refrained from examining the question of whether the proposed contract would endanger the rights of bondholders of the earlier projects and made no mention of the probable practical effects of the decision upon the present project, namely, the likelihood that it might make it somewhat more difficult to market the bonds advantageously. Whether such mundane matters are taken into consideration in a court of law depends in part upon the temperaments and predilections of the judges.

²Wells v. Stuck et al., (Ark.), 215 S.W. 2d 697 (1948).

Methods of training your MAINTENANCE MEN

J. F. WIGHT

Janitor Foreman
Oberlin College

BUILDING SERVICE EMPLOYES OCCUPY positions of considerable importance in an educational institution. They are not just common laborers. Their duties call for skill; their responsibilities call for knowledge, both of which need to be leavened with common sense.

The purpose of a training program is to stimulate men to think through their jobs and to present information that will help them become more efficient in the care, operation and maintenance of the physical plant. Today many employers realize that organized training of their personnel is an essential part of an over-all maintenance program.

OFFICIAL HOUSEKEEPER

For years the janitor has been the subject of ridicule. He is pictured as a poorly dressed, decrepit individual, always in the way, a poor workman when busy but oftener shown just standing or leaning on his broom. A trained operator changes this long standing notion toward custodial personnel. He should be addressed as the *custodian* because he is the guardian of the building assigned him, as well as its official housekeeper. He has a responsibility for the protection and care of college property and can be valuable in furthering the teaching program.

Few men are naturally proficient cleaners and must be taught proper methods, work habits, and use of the tools. The trained custodian will know dirt when he sees it and will be alert to conditions that are unsafe and insanitary. He will require less supervision.

A new employe starting custodial work should have the job outlined so that he knows the purpose of the work, the relation of his part to the whole operation, the relative importance of the various details, and the manner in which it is to be done. When these points have been made clear he develops a wholesome mental attitude toward the work. He then knows that he is a vital part of the entire operation—an important link in the chain.

The following methods of training are most commonly used:

1. Skill and information training, sometimes known as work habit training. This is given on the job, the demonstration method being used, followed by repeated practice.
2. Lecture method (presented to groups).
3. Use of instruction manuals and bulletins as references and work guides.

Too often men are allowed just naturally to "pick it up" and to adopt clumsy methods and poor work habits. After each job has been studied and work schedules have been prepared, the supervisor should take immediate steps to instruct the workman in the easiest and least tiring methods. Inadequate training often results in waste of time and low production effort. The well trained custodian is able to plan his work and to assemble materials and equipment so that time is not wasted.

Motion studies have been made representing many hours of actual cleaning work by trained men. The results of such studies make it possible to set up standard methods, time and frequency data, and serve as a scientific basis for budgeting costs and scheduling work. The man learning the job should be shown the easiest and best-by-test methods as proved by others, but still it is necessary that he use his own ingenuity in their application.

Visual aids to supplement bulletins and guide sheets will emphasize the importance of using proper methods and materials. Films are sent free by some industrial sales concerns to encourage the use of their products. The coincidental advertising does not detract from the value received in actually seeing the proper method of application.

Books covering basic cleaning procedures, and job and information sheets can be obtained from the departments of education and vocational training in some states. Supervisors frequently find that they can build up their own in-

struction book from bulletins and job sheets assembled as jobs are studied. All instructions on the job sheets must be clearly stated. They should cover a complete description of the work to be done, materials and tools needed, and should show in detail a list of the operation steps, position of hands and feet, and motions that will give maximum coverage and speed while performing a thorough job.

An example of several janitor job descriptions are given here.

Opening Classroom Building in Morning:

- Unlock all doors, including fire escape door operation.
- Turn on ventilating fans and check temperature.
- Make adjustments for good ventilation.
- Place proper number of blackboard erasers in each room.
- Dust the seats and teachers' desks and chairs.
- Unlock windows.

Closing Room for Night:

- Close all windows and lock those on the first floor and those near a fire escape.
- Pull window shades to same level from outside view.
- Turn off all ventilating fans.
- If there is a fire exit, be sure door is secure.
- Turn off all lights.
- Lock the doors.

Sweeping Classroom Having Movable Chairs on Treated Floor:

Tools Needed: cotton sweeping mop, 18 or 24 inches wide; dustpan; dust box; wastepaper container; counter brush; radiator brush; putty knife; pliers, and screw driver.

Operation Steps: Prepare the room for mop sweeping; erase blackboards; clean chalk trays; empty pencil sharpener and litter from students' desks into wastebasket; empty wastebasket

into container and place empty waste-basket on desk; clean out radiators, and use counter brush to clean under radiators.

The sweeping mop is used on wood floor areas prepared by sealing and waxing. The same tool is to be used on asphalt tile, rubber tile, linoleum and terrazzo when surface is waxed.

Place the dust box at center of front of room.

Position for sweeping stroke: Grip the end of the mop handle with the right hand thumb at extreme end and left hand palm about half way down on the handle. Hold loosely to allow handle to slide freely through the hand. At the beginning of the stroke, feet are about 12 inches apart, weight is on the right foot. Sweep with a circular motion and keep dirt ahead of mop.

Walk forward as you sweep, always keeping mop on the floor.

Do not bear down or ride the mop. Stand and walk erect to reduce fatigue.

Sweep out corners as you come to them.

Start in aisle opposite door, sweeping from back of room to front. Use putty knife to scrape gum from floor as you sweep.

Return up the same aisle, pushing mop ahead of you to get any sweepings left, and move chairs into the swept space.

Shake mop into dust box at the end of each row.

Repeat the last three operations for each row.

Sweep the front section of the floor and gather dirt into dustpan with counter brush; empty into dust box.

The operation varies slightly when aisles run lengthwise or crosswise of room. All job sheets include the warning "Always inspect your job."

Mop-Sweeping Stairway:

Tools Needed: Wedge shaped or regular 16 inch sweeping mop; dustpan; dust box; putty knife; counter brush.

Operation Steps:

Sweep top landing and push dirt to the top step.

Stand on landing near center of step. Place mop in right hand end of top step.

Hold mop at 45° angle with edge of step and sweep from right to left past center of step.

Push dirt to second step.

Reverse position of hands on mop and begin at left of step and repeat as above, moving mop from left to right.

Reverse position of hands and begin at right end of second step and repeat until stairs are finished.

Dust dado as you go.

Use counter brush to gather dust into dustpan.

Be sure corners are clean. Use putty knife to remove gum.

Shake out and comb mop when finished.

Firing Furnace:

Place coal in firebox. To shovel coal into a furnace seems a simple job, but the method of maintaining a light fire in early fall and late spring requires some instruction so that an overheating condition does not result with unnecessary waste of coal.

Keep ash pit clear. Much needless expense and many heatless days result when ashes build up against the grates, causing warping and breakdowns.



Keep flues clear of soot. This is important because several days' accumulation of soot acts as an insulator and stops proper transfer of heat and will catch fire.

Maintain proper water level for steam boilers. This must be maintained exactly and checked each time the furnace is attended. The custodian must know how to add water and how to drain the system, also the proper steam pressure at which boiler should be operated.

Check smoke pipe and connections to chimney so that fire hazards do not develop.

Draft and damper controls must be in operation and adjusted to proper operation.

The custodian should be told how to pull fire in case of emergency and about the danger of adding cold water to a hot furnace.

Stoker Operation: Remove clinkers to clean fire; adjust air supply for

proper combustion; adjust coal feed mechanism; fix controls, thermostat, pressurestat, low water cut-off setting for regular firing periods; replace shear pin after finding out what caused the pin to shear; locate electric fuses.

SOME RESIST NEW METHODS

The instruction sheets will have to be presented with care. The older custodian will resist the use of methods other than those to which he is accustomed—first, because they are new; second, because he may feel the supervisor is attempting to increase his work.

On the other hand, if the material can be presented so that it demonstrates the advantage of correct methods toward a satisfactory job, he will be glad to make use of it. When a new worker is placed on the job the instructions should be considered as tools, along with his broom and dustpan.

Fire is a constant threat in college buildings. A member of the night cleaning crew spreading a turpentine wax carelessly pushed his applicator against an electric floor outlet. The insulation on the wire was hardened and cracked. A fire started and spread over the freshly waxed floor. Only quick action in using a handy extinguisher saved the building. This incident would have been avoided had the man been trained for his job.

The training program should impress the men with the necessity of thinking while on the job and being alert to hazards. Trained men would know that (1) extreme care must be used when handling inflammables, and (2) dangerous electrical connections must be reported and orders issued for repair.

The custodian must be instructed concerning the location of water and gas shut-off valves, main switches on electric service, sewer clean-outs and the location and proper use of fire extinguishers. In case of emergencies he must know how to summon help without delay.

Sometimes it is more practicable to train men in groups. A custodial school, held during the summer vacation period at Oberlin College, proved effective.

The prime objective of custodial service is to keep building interiors in good condition at reasonable cost. Training motivates members of such a group to give their best efforts in doing just that.

When all the lines are full, it is possible to serve as many as 120 a minute.

VIRGINIA POLYTECHNIC INSTITUTE's main dining hall changed from a modified table service to a modern cafeteria system to meet the urgent need of an annually increasing enrollment.

The advent of war had necessitated the elimination of table service, since the majority of students and student waiters went off to war and in their place came military trainees. During the war, as at most schools, the labor supply was either limited or did not exist at all, but still the multitude had to be fed. To ease the burden, V.P.I. adopted an improvised semicafeteria system by converting bains-marie to steam tables and by adapting other equipment to cafeteria use. This system served its purpose admirably during the war years but was not suitable for present and future needs.

As our thoughts turned to a new cafeteria system, we found ourselves with four major problems to be taken into consideration. First was the large number of students to be fed within a relatively short space of time. V.P.I. is a residential college with an enrollment of 5000 students. All dormitory students eat on a prepaid board plan, approximately 3000 of them in one main dining hall served by one kitchen.

Second, this college is one of eight in the United States classified by the War Department as essentially military, and this military aspect of the college demands that any food service employed here be based on the requirements of an exacting military schedule wherein all military students form and march to meals en masse. For this reason, the experience of other institutions in this part of the country with a cafeteria style of feeding was of little help to us. At the present time civilian students outnumber military students 3 to 1, but with the completion of the veteran program it is expected that this ratio will reverse.

Our third problem was closely connected with the first two—to provide,



Converting from table service to

CAFETERIA

W. H. MILLER

Director of Dining Halls
Virginia Polytechnic Institute

in spite of the large number to be fed in less than an hour's time, a complete service of china and individual trays.

Finally, we must incorporate cafeteria counters into a building originally planned for waiter service.

The floor plan of this building can best be described as a Roman numeral I with a dining room forming the top and bottom of the numeral, and the kitchen between. Since the dining rooms are some distance from the food preparation area, it is necessary to provide ample hot and cold storage space in each counter so there will be no

delay in service or laborious transportation of food from kitchen to counters during any one meal period.

It was the desire of the college to install a cafeteria system that not only would be in line with the first two major considerations but also would make it possible to serve the students more palatable food on a more varied menu and to improve the food service in every way possible.

Once we had reached a tentative decision as to what would be required, our next step was to hire a food equipment firm to draw up alternate

PLANS FOR FOOD SERVICE INSTITUTE

Registrations are coming in rapidly for the 1949 Food Service Institute, July 25 to 27, at the Knickerbocker Hotel, Chicago, but the limit of 125 delegates has not yet been reached. Northwestern University and College and University Business, joint sponsors of the institute, are limiting to two the number of delegates from each college or university so that more institutions can be served.

One session of the program will deal with foods and their storage. "Frozen Foods, Their Purchase, Storage and Use" will be discussed by Col. Paul P. Logan,

director of food and equipment research, National Restaurant Association; "Food Storage and Processing," by Mildred A. Baker of Pennsylvania State College, and "Food Storage in Processing Buildings," by Robert F. Herron of Michigan State College. Other program features were listed last month or will be announced in the next issue.

Registration checks of \$15 each should be made payable to "Food Service Institute" and forwarded to Willard Buntain, director of dormitories, Northwestern University, Evanston, Ill.

plans of cafeteria counters combining our ideas with these four major considerations.

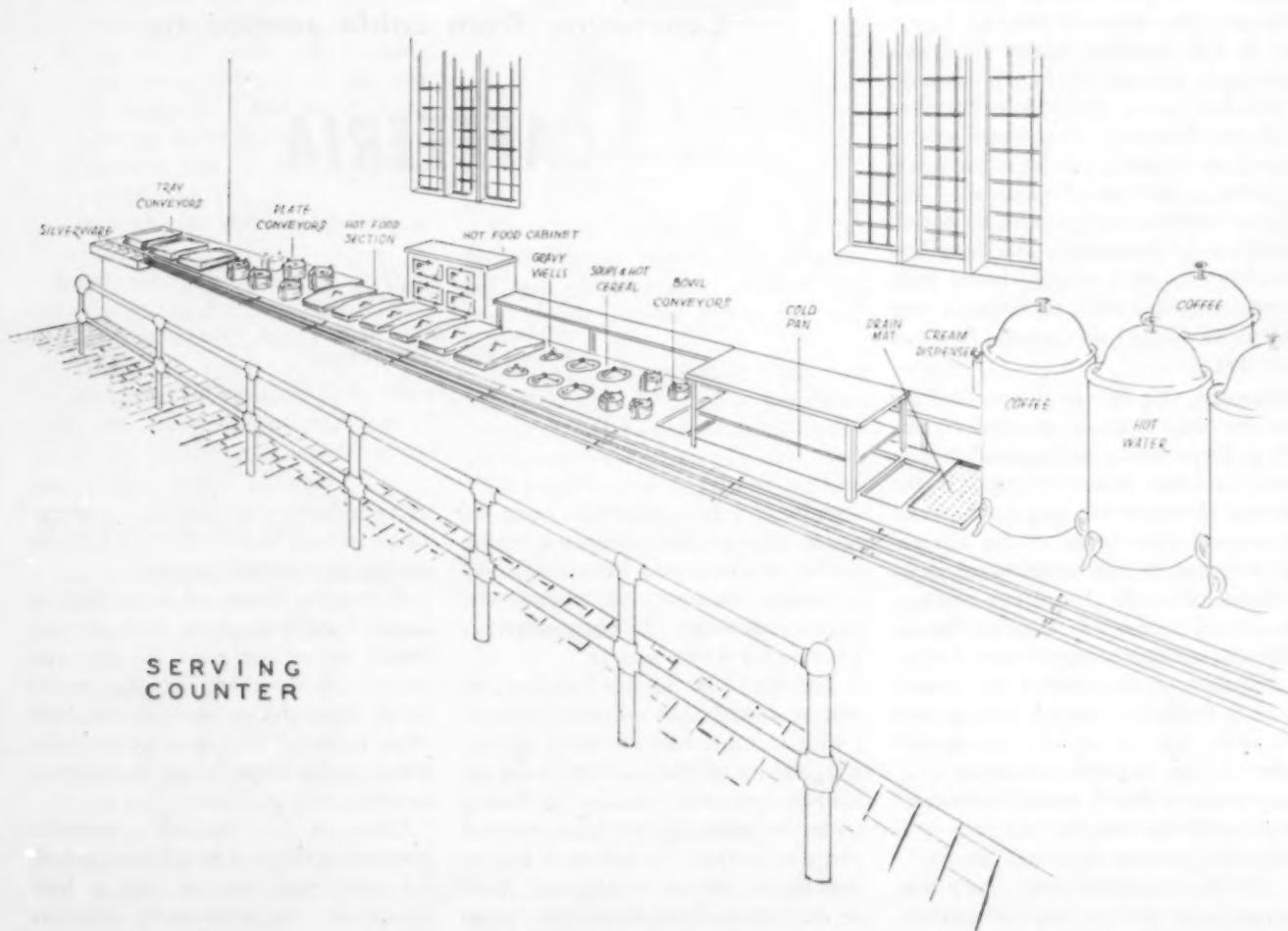
It was decided to install four serving counters, two in each dining room end to end along the kitchen wall, each serving counter providing two serving lines, making four serving lines in each of the two dining rooms—the lines moving from both ends of each

counter. The length of each serving line is 42 feet, making the total length of serving lines per dining room 168 feet, or 336 feet for the eight serving lines in the entire dining hall. This plan placed the counters in as close proximity to the kitchen as was possible. Moreover, it allowed plenty of space for the lines to form inside the dining room itself.

The cafeteria counters, back bars, and exterior and interior shelving are constructed entirely of stainless steel. Counter tops are made of No. 14 gauge steel, the fronts and ends of No. 18 gauge steel; the bordering trim is of No. 12 gauge steel bands. Interior supports are made of angle iron frame.

As the student approaches any serving counter the first item he finds is a silverware compartment box sunk on a level with the tray rail. In many instances it is desirable to have silverware located at the end of the line, particularly in cafeterias where an à la carte menu is offered and the customer takes only the silverware needed for his meal selection. In our case, with a single selection menu only, the silverware needed for a particular meal is placed in the compartments. Immediately back of the silverware and on the counter top are napkin dispensers.

The tray section follows. Here, aluminum serving trays are nested in three conveyors with a capacity of 375 trays. The conveyors keep trays at counter top level regardless of how many are added or removed; a spring feeds the trays to the top of the



counter where they are picked up by the students. Six similar conveyors accommodate 375 plates next in line. Here, again, all but a few plates are counter sunk and, as a result, give a neat and orderly appearance at all times. Each plate conveyor is equipped with electric heating elements with a cartridge type of thermostat that assures a uniform warmth for all plates.

The electric hot food unit with six electrically heated wells follows. Each well may be kept at any holding temperature desired for the meat or vegetable placed in it. There are also two gravy wells and four soup, or hot cereal, wells in this section, all with individual heat controls.

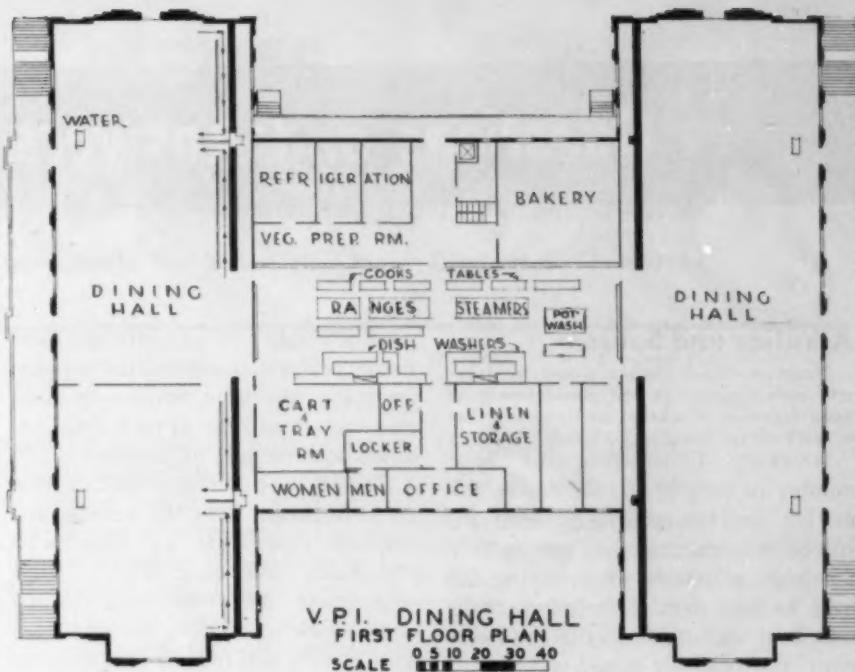
Directly to the rear and in the back bar is a hot food cabinet, with space for 12 pans of food. This storage unit not only is thermostatically controlled to keep food at an even temperature but also contains a humidifier that keeps the food from drying out. An arrangement of this sort was necessary since any slight delay in replenishing a food item would slow up the line drastically. It also saves kitchen personnel many steps since the kitchen is located at some distance from the serving counter.

Next to the soup and hot cereal wells another section of conveyors is provided for the storage of plastic bowls. Dry cereals are placed on tiered shelves on the other side.

The cold section used for the serving of juices, salads, cold desserts, bottled milk, and cut butter is next in line. This unit contains a pan cooled by refrigerated coils at the top so that food may be set on top of the counter and still be kept chilled. Below each cold pan there are 40 cubic feet of cold storage space. Above the cold pan is tiered shelving for servings of cold items.

The hot beverage section appears at the end of the serving line and joins the two counters, thus completing the double cafeteria unit. This urn section serves both lines and consists of three 15 gallon urns and one 30 gallon hot water urn. One urn, located to the rear and centered between the two front urns, serves as a standby reserve. This urn has double draw-off faucets accessible to both serving lines. Each urn has a metal strainer pan of the single type in place of an urn bag.

Attached to the urn is an automatic cream dispenser connected by plastic tubing to the coffee faucet. On the faucet is a device that allows cream to



Capacity per dining room is 1100 seats. Dining room on left shows direction of traffic through serving lines.

be mixed automatically with coffee as it comes out of the faucet. By thumb pressure the cream can be cut off for the serving of black coffee. Each urn has an automatic repouring device operated by steam pressure. Beneath the urn stand are heated compartments for cups.

Running full length behind each serving counter are back bar storage cabinets which are used for reserve supplies of china, trays and paper goods. A water cooler serves each double line and is located on the opposite side of the dining room. The cooler originally was located at the end of each double line but was moved because it caused a bottleneck that slowed down the lines. All water coolers are connected to one cold water tank cooled by a central refrigeration system. Although the cold water lines run several hundred feet, a circulating pump keeps a constant supply of cold water.

The effectiveness of the new cafeteria can best be measured by our previous type of feeding. Up until World War II, the main dining room provided table service, family style. When large numbers are fed, this system has its advantages only in that it provides an enormous source of student employment and does not require the student to wait for his food since it is already on the table. Service of this type, however, has many overruling disadvantages, such as uncontrol-

lable food waste, warm foods served cold and vice versa, a restricted menu, huge breakage costs, and careless serving by scores of student waiters who are difficult to supervise by nature of their numbers and are always pressed for time. In a word, a permanent situation of "haste makes waste" exists. In our situation haste is still a necessity, but waste has to be avoided.

The new cafeteria system has been in full operation since September 1948, and perhaps the best indication of its efficacy is that thus far it has solved all the aforementioned difficulties for us. It has eliminated considerable waste and breakage. Foods are now served at the desired temperature. The menu is more varied and could be even more so if we were willing to sacrifice speed to do so; the service itself is more efficient in all respects; the general appearance of the dining hall has been improved greatly, and the service is neater, more sanitary, and easier on the employees.

Although some speed in service has been sacrificed, since the students must now pass in line for all foods, at present we are serving 3000 meals in less than an hour. When all lines are full it is possible to serve as many as 120 a minute.

On the whole, considering our special problem of feeding a large number of students in an extremely short time, we feel that the installation has come up to our expectations.

Questions and Answers

Alkalies and Sours

Question: What factors should be taken into consideration in the development of open formulas of alkalies and sours for use in institutional laundries?—E.G.C., Md.

ANSWER: Considering the large number of proprietary alkalies on the market and the pricing systems involved, it seems logical to specify only the basic materials when asking for bids. In your state, if the water condition is at all similar to that in Baltimore, you probably would concentrate on three or four of the basics like sodium orthosilicate, sodium sesquisilicate and sodium metasilicate, trisodium phosphate and perhaps soda ash.

These basics constitute the bulk of the ingredients in the proprietary compounds; some of them may have varying amounts of tetrasodium pyrophosphate or tripoly phosphate or other similar products. The phosphates are valuable in hard water areas and generally the compounds that contain them will cost more than those with the basics only.

You may want to specify a blended alkali that combines the excellent properties of several of the basics, which is the goal of the proprietaries. A good one, for example, which we know will work well in your area is to specify a mixture of 50 per cent sodium sesquisilicate, 40 per cent either tetrasodium pyrophosphate or tripoly phosphate, and 10 per cent soda ash. This mixture gives the colloidal action and high pH of the sesquisilicate, the hard water acting phosphates and the alkalinity of the soda ash. If this mixture is used as a base, it should not be difficult to vary the percentages of the various alkalies in order to arrive at a compound that would be applicable to all of the laundries under jurisdiction.

Of course, there are the built soaps that do not vary so much in alkali content. They usually are a mixture of 60 or 70 per cent soap and 30 or 40 per cent alkalies, such as trisodium phosphate, soda ash or metasilicate. In the small institution, a built dry soap is considered ideal as it eliminates the

need of a soap tank and provides more nearly uniform control as the supplies are always the same, while soap tanks may vary from time to time owing to dilution or method of preparation.

Recent developments indicate that synthetic soaps, both the anionic and nonionic types that are built with phosphates and basic alkalies, may soon make the foregoing information obsolete. These new blends work equally well in hard or soft water.

With sours, one is confronted with much the same condition as with alkalies. Many of the proprietary sours are nothing more than a mixture of basic sours with the addition of a wetting agent. In one analysis, the sour contained 95 per cent sodium silico fluoride and 5 per cent wetting agent; this sour sold for 25 cents a pound when the basic silico fluoride sold for 8 cents and the wetting agent cost 15 cents a pound.

Generally, straight sodium silico fluoride may give difficulty unless it is aided by a wetting agent to assist uniform penetration. We have always preferred either straight zinc silico fluoride or straight sodium acid fluoride. These are more expensive than sodium silico fluoride, but in the long run, because of their solubility and rust removing ability, they are well worth the difference.—L. A. BRADLEY, manager of laundry services, State University of Iowa.

If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill. Questions will be forwarded to leaders in appropriate college and university fields for authoritative replies. Answers will be published in forthcoming issues. No answers will be handled through correspondence.

Painting Over Plaster

Question: Can freshly plastered wall surfaces be painted right after the plastering is finished?—J.R.E., Ore.

ANSWER: If a newly plastered wall is painted too soon, the unreacted lime, which is an alkali, is likely to combine with the oil in the paint to form a soap. This will result in a bad appearance of the painted wall. It is usually best to allow plenty of time for the lime to set, also to permit the escape of most of the water and to be sure that most of the free lime is at least partially converted.—E. W. JONES.

Commercial Heat Price

Question: What do you consider an average and fair price for commercial heat?—B.M., Conn.

ANSWER: Such costs vary materially:

1. Because such plants were constructed several years ago during a period of low construction costs.
2. Because of the time lapse since such construction, the plants have been depreciated, or at least the indebtedness has been materially reduced.
3. Because of the method of providing for firm capacity or emergencies. For example, in Chicago a number of isolated heating plants are maintained and can be put into service if needed. The capital costs of such plants, however, are not included in the original investment on which the customers have paid depreciation charges.

At the present time we are in the process of trying to work out similar costs, anticipating the possibility of constructing a central plant for the medical district. As a guide and to answer partially the question raised, it seems that the institutions purchasing steam should be willing to:

1. Pay their proportionate share of interest, depreciation, taxes and insurance, based upon the percentage of their maximum demand to the firm capacity.
2. Assume the entire capital cost, plus maintenance, of any distribution system used solely by them.—C. S. HAVENS, physical plant department, University of Illinois.

NEWS

Colleges Await Decision in Tax Exemption Case . . . Conant Heads American Council on Education . . . Racial Discrimination Charged . . . Purchasing Agents to Hold Institute . . . Two Schools Sue V.A. . . . More Graduates Than Jobs

Washington Correspondent: BEN BRODINSKY

Agricultural Courses Most Popular With G.I.'s; Business, Next

WASHINGTON, D.C.—Courses in agriculture attract the largest number of veterans enrolled in schools and colleges under the G.I. Bill of Rights. Business and engineering rate next in popularity with veterans. These three fields enroll 40 per cent of the nearly 2,000,000 veterans now in educational institutions.

A new breakdown of enrollment figures by the Veterans Administration shows 297,664 students taking agricultural courses, ranging from animal husbandry to farm management. Business administration, accounting, advertising and other business courses enroll 274,328, and engineering enrolls 196,778 students.

The figures, latest available, show enrollment as of Nov. 30, 1948. They reveal that 247,685 veterans were taking liberal arts courses; 85,007 were preparing for teaching careers; 79,917 were taking mechanical courses, and 76,920 were enrolled in radio and communications courses.

Another 46,617 were preparing to fill managerial occupations such as retail managers, hotel and restaurant managers, advertising agents, credit men, and department store buyers and heads.

An over-all 4.6 per cent drop in G.I. bill enrollments in schools took place in 1948—from 2,000,402 on Nov. 30, 1947, to 1,909,122 on Nov. 30, 1948.

It's Hush-Hush on Federal Scholarships

WASHINGTON, D.C.—A top-level policy conference to blueprint possible ways for administering federal student assistance programs was held in the Office of Education May 24 to 26 with

many of the nation's high education officials in attendance. Representatives of private, public and church related institutions were present. The conference was under the guidance of Dr. John Dale Russell, director of the division of higher education.

While no details of proceedings were made public, it was learned that the conference reviewed the entire problem of federal scholarships and the part that student loans and student work programs might play on a national scale to help young men and women continue their education. How to dovetail a general scholarships plan with scholarships to be administered by the National Science Foundation was also reviewed.

Agreements reached at the conference will be summarized in a memorandum of information to be submitted to the White House, and later to Congress, as a basis for national scholarship legislation.

Advises Veterans on Interrupted Training

WASHINGTON, D.C.—Veterans planning to resume interrupted G.I. bill education and training should await receipt of a supplemental certificate of eligibility before going back to classes, the Veterans Administration advises. A large number of veterans have been accepted recently for courses by educational institutions before they have received their supplemental certificates of eligibility from V.A.

Veterans are urged to wait until they are sure their certificates have been approved before actually entering training, unless they can afford to defray the interim cost of tuition and expenses themselves. Until the certificates are issued, V.A. assumes no financial obligations for the payment of tuition or other expenses. Collection is strictly a matter between the school and the veteran.

James B. Conant Heads American Council on Education

WASHINGTON, D.C.—James B. Conant, president of Harvard University, was elected chairman of the American Council on Education for the coming year.

The election took place at the council's annual meeting held in Washington on May 7.

Other officers elected include: first vice chairman, David B. Henry, president, Wayne University, Detroit; second vice chairman, Martha B. Lucas, president, Sweet Briar College, Sweet Briar, Va., and secretary, Eugene B. Elliott, president, Michigan State Normal College, Ypsilanti.

For membership on the executive committee, for three-year terms, were named: Charles J. Turck, president, Macalester College, St. Paul, and Herold C. Hunt, general superintendent of schools, Chicago.

For membership on the policies committee were named: Raymond B. Allen, president, University of Washington, Seattle; Charles W. Cole, president, Amherst College, Amherst, Mass., and George D. Stoddard, president, University of Illinois, Urbana.

Japanese Students Are Army's Guests

WASHINGTON, D.C.—The U.S. Army will bring several hundred Japanese students to American colleges and universities during 1949-50. Army funds will pay for their transportation, tuition and maintenance while in this country.

The plan will be administered by the Office of Education and other agencies interested in international education.

About 125 Japanese students are already in the United States.

NEWS

Higher Education Officials Watching Tax Exemption Case

WASHINGTON, D.C.—Whether educational foundations and the businesses they operate for schools and colleges shall be exempt from taxation will soon be decided in a federal court.

On May 25, the commissioner of Internal Revenue filed an answer in the U.S. Tax Court to the petition of the C. F. Mueller Co., which asks exemption for this prominent spaghetti manufacturer.

The government insisted that C. F. Mueller Co. is subject to income taxes. The company had denied this, claiming exemption because its proceeds go for educational purposes.

College and university officials are watching this case with interest because the C. F. Mueller Co. is operated for the "exclusive benefit" of the law school of New York University. Trustees hold all its stock and pass on the dividends for the exclusive use of the school. A decision in the Mueller case will affect the status of all commercial enterprises operated by schools and colleges.

Now awaited is announcement by the U.S. Tax Court of the date for trial, expected to take place in the fall.

Observers believe that the government will lose this case and that the educational foundation will continue enjoying its tax exempt status. They base their belief on an earlier case involving the Edward Orton Jr. Ceramic Foundation. In that case, both the U.S. Tax Court and the court of appeals ruled against the government, declaring that exemption depended not on the source of revenue but on the use to which it is put.

More College Graduates This Year Than Jobs

WASHINGTON, D.C.—More students will be graduated from colleges and universities this summer than at any other time in history. Government spokesmen estimate unofficially that the number of college graduates this year will be from 6 to 10 per cent more than last year's group, reaching a high of 350,000.

"Industry and business, plagued by a series of declines, will not be able to absorb this number," Ewan Clague, U.S. Commissioner of Labor Statistics,

predicted. He pointed out that the underlying economic forces are still strong. "Nevertheless, unemployment reached the 3,000,000 figure and may go higher during July and August. Steel operations have dropped, total construction is slipping, and department store sales are below those of last year," Commissioner Clague said.

"The fact that more college graduates than ever will be looking for jobs at a time when the economy is at the least propitious point in a decade will spell problems for many of them."

Mr. Clague indicated that graduates in engineering, law, personnel work, journalism, accountancy and flight training will have greatest difficulty in the labor market. On the other hand, elementary school teachers, librarians, social workers, advanced medical workers, and psychologists with major degrees will be readily absorbed.

To help the college graduate with his employment problems, the U.S. Labor Department recommends that college and university placement bureaus intensify their services; that graduates be urged to be flexible in their job goals, and that many of them be guided toward graduate study.

Survey Discloses Racial Discrimination

HARTFORD, CONN.—A recent report by the Connecticut Inter-Racial Commission charges that there has been widespread discrimination against Negro, Jewish and Italian high school graduates seeking admission to private colleges and universities in Connecticut and elsewhere in the country.

The charges were based on a two-year study covering the experience of 1400 high school graduates in Bridgeport, Hartford, New Haven, West Hartford, Middletown and Norwich. The data were obtained by the commission's research associate, Dr. Henry G. Stetler.

In releasing the survey findings on religious and racial discrimination, Governor Chester Bowles said, "The commission's report prevents us from closing our eyes any longer to how sharp and ugly that discrimination often is." He called upon the heads of all private nondenominational institutions and preparatory schools "to take action—forthright, vigorous action—to eliminate discrimination."

Two Schools File Suits Against V.A. Over Tuition Rates

WASHINGTON, D.C.—A U.S. district court is now studying two cases that may decide the powers of the Veterans Administration to set "fair and reasonable" tuition costs that schools charge for training veterans.

The federal court for the District of Columbia accepted two suits against the Veterans Administration from two professional schools—one private and one nonprofit. In both cases the question of the V.A.'s right to dictate tuition rates are involved.

Here is the background:

The Feener Technical School of Boston decided to increase the cost of its courses for veterans from \$195 to \$715. The V.A. said the increase was "unreasonable," was an excess of 25 per cent, and asked the school to submit cost data. (Schools may increase cost under 25 per cent in certain cases without having to submit justifying facts.)

The school submitted its facts, but the V.A. arrived at its own figure of \$602 per course. The school did not accept the V.A. figure, hence, it was without a contract for veterans' tuition and was receiving no payments from V.A. The school then claimed financial hardship and appealed to the Comptroller General, who declared: "Without deciding the merits of the case, it is apparent that the school is entitled to something." He authorized payment of \$600 per veteran student.

V.A., under the law, is obligated to make tuition payments. Nevertheless, the school went ahead with a lawsuit, claiming "financial hardship" and calling for a temporary injunction to restrain the V.A. from basing tuition on its own "fair and reasonable" formula.

The second case involved the Industrial Technical Schools, Inc., also of Boston, which added several new courses since June 22, 1944. Under a new regulation, Change 9, it must submit cost data on these courses in order to be paid a "fair and reasonable" tuition for veteran enrollees. It must submit such data despite the fact that it claims to be a nonprofit school. The school claims that the regulation, Change 9, is invalid and not in accord with the law since it was put into force after the contract was signed by the V.A. and the school.

New V.A. Regulation May Reduce Amount Paid to Colleges

WASHINGTON, D.C.—Carl Gray, administrator of Veterans Affairs, decided that the V.A. must take into consideration all grants to educational institutions from federal sources in computing tuition costs of veterans enrolled under the G.I. Bill of Rights.

Net effect of this regulation may be to reduce the amounts the V.A. will pay the institutions that train veterans and that also receive allotments under federal programs supporting land-grant colleges, agricultural experiment stations, extension services, and vocational education.

The V.A. issued the regulation after many colleges and universities refused to take into account federal funds received through provisions of the Smith-Hughes and other acts in computing tuition costs. They challenged an earlier regulation which stated: "When a portion of the cost is covered by grants from the federal government (that is, Smith-Hughes or other laws), due consideration to such subsidy will be given in determining the proper charge to the V.A."

The administrator's decision, No. 812, now seeks to stop "this failure to comply." The decision goes on to say that schools that have received more compensation than they were entitled to under the regulations "should be required to comply therewith through an adjustment to be made in the amount to which they would otherwise be currently or in the future entitled."

Purchasing Agents' Institute in August

NEW YORK CITY.—The National Association of Educational Buyers announced recently the sponsorship of a one-week institute for purchasing agents of colleges and universities. According to present plans, the institute will be held at Teachers College, Columbia University, August 22 to 26.

Developed in response to the demand for professional training in the field, the institute will give particular emphasis to the needs of junior members of college purchasing staffs. Basic principles of sound purchasing will be emphasized with detailed discussions of specific problems included as a

WASHINGTON AT A GLANCE

WASHINGTON, D.C.—Congress is at the mid-point only in its work on most bills in which educators have an interest. But the first session is nearly over. . . . Indications are that many of these will be carried into the second session beginning January 1950. . . . Still in committee or talk stage are the National Science Foundation, social security for educational, religious and scientific employees, Department of Welfare and Education, proposed higher postal rates on educational publications, and the labor education extension service.

Senator Kefauver (D-Tenn.), in a speech off the Senate floor, urged a permanent program of federal support to higher education. . . . But Senator Taft (R-Ohio), who is probably the most influential person on committees affecting education, made clear that the Congress is not yet ready to enact legislation for higher education. . . . He admitted publicly that he has not read the report of the President's Commission on Higher Education.

Mr. Taft is convinced that federal aid to elementary and secondary schools must be enacted before consideration is given colleges. . . . He

led a successful fight for aid to public schools in the Senate. . . . But the legislation is stalled in the House where a subcommittee is holding exhaustive hearings on the Barden "public schools assistance act." . . . Among distinguished witnesses before the House subcommittee favoring federal aid was President James B. Conant of Harvard University. . . . Opposed, Thomas Boushall, for the U.S. Chamber of Commerce. . . .

A joint committee has been proposed in Congress to investigate lobby activities which, among others, would look into army efforts to influence public opinion for universal military training.

The U.S. Office of Education is working on a study of instructional salary costs in junior colleges. . . . The American Council on Education will renew work on its long delayed Manual of Administration for Colleges and Universities, with first attention to a section on financial administration. . . . And the Association of American Colleges, 726 Jackson Place, N.W., has free copies of a pamphlet entitled, "The Growth of the Experimental Sciences," useful to instructors in science.—B. P. B.

special phase of the week-long course.

Leslie F. Robbins, purchasing agent for the University of Colorado, will serve as chairman and moderator for the purchasing institute. He will be assisted by George S. Frank, manager of purchases at Cornell University, and by F. L. Abbott, chairman of the committee on education for the National Association of Educational Buyers, who is on the staff of Teachers College, Columbia University.

Denounces Foreign Student Exchange

WASHINGTON, D.C.—Sen. Kenneth McKellar of Tennessee advised State Department officials recently that he intended to introduce a bill to abolish the program under which the United States exchanges students and teachers with foreign countries. He denounced the department's educational exchange program as unnecessary "claptrap." William C. Johnstone, director of the program, said that it costs about \$8,000,000 a year.

Rutgers Drops 32 Instructors

NEW BRUNSWICK, N.J.—As a result of a sharp drop in Rutgers University's operating income, the institution will not reappoint 32 instructors at the end of their present term and may release 62 others, Dr. Robert C. Clothier, president, announced recently.

The expected decrease in student enrollment in 1949-50 will reduce the income from student fees by \$750,000. Although the institution has received an increase of \$141,514 from the state appropriation—including \$40,000 earmarked for the Rutgers Institute of Management and Labor Relations—this will be more than offset by normal annual salary increments of \$200,000.

"The straitened condition of the overall state budget made it impossible for the governor and the legislature to appropriate the full amount we requested," Dr. Clothier said in explaining the present situation.

NEWS

Holger B. Bentsen Named President of Educational Buyers

BOSTON.—With a record-breaking attendance of 446 delegates participating in the four-day meeting of the 28th annual convention of the National Association of Educational Buyers, sessions for the conference were brought to a close with the election of Holger B. Bentsen of George Williams College, Chicago, as the new president and the selection of Houston, Tex., as the site for the 1950 convention.

One of the major outcomes of the meeting was the announcement of the sponsorship of a purchasing institute to be conducted this summer at Teachers College, Columbia University.

Under the gavel of President Charles W. Hoff of the University of Omaha, delegates participated in discussions dealing with the credit risk of colleges, insurance problems, comparative commodity costs, construction problems and new materials, work simplification through record forms, residence hall and dining room costs, fair trade laws, and problems of university administration.

Keynote speaker was Stuart F. Heinritz, editor of *Purchasing*; featured speaker at the presidential inauguration banquet was James R. Kilian Jr., president of the Massachusetts Institute of Technology.

Those named to serve with Mr. Bentsen as officers of the association include: The Rev. J. Leo Sullivan, S.J., College of the Holy Cross, vice president; Jamie R. Anthony, Georgia Institute of Technology, and John Rork, University of Denver, vice presidents; K. A. Jacobson, California Institute of Technology, associate vice president, and Harold W. Loman, secretary-treasurer. Bert C. Ahrens was reappointed executive secretary.

Loyalty Oaths for Scholarship Holders

WASHINGTON, D.C.—The Atomic Energy Commission ordered oaths of loyalty for the 500 students and scholars holding commission fellowships and scholarships in medical, physical and biological sciences.

The step, observers believe, will begin a chain reaction of similar orders in other federal agencies sponsoring

fellowships, scholarships, teaching grants, and research activities in colleges and universities. The order will apply to both secret and nonsecret fields.

Lawmakers on Capitol Hill have indicated that provisions will soon be enacted requiring loyalty oaths from all future students wishing to take part in federal study and research activities.

They also indicated that similar provisions would become mandatory in programs to be sponsored under the proposed National Science Foundation. Charges that such oaths would interfere with academic freedom or constitute federal control of education have not impressed most Congressmen. "Why use public funds to educate people whose loyalty is suspected?" asked Clare E. Hoffman (R.-Mich.).

Strong sentiment for student loyalty oaths began on Capitol Hill when the Atomic Energy Commission disclosed that a former member of the Communist party had been awarded a scholarship. Twenty-four hours later, the A.E.C., under pressure from Congress, announced that all scholarship holders were required to swear that they will "support and defend the Constitution of the United States and that they are not members of organizations that advocate the overthrow of the government by force."

Truman Urges Support for Negro College Fund

WASHINGTON, D.C.—President Truman urged in a message recently made public by John R. Suman, chairman of the United Negro College Fund campaign, that support should be extended to the efforts to raise \$1,400,000 established as this year's objective of the United Negro College Fund.

"For many thousands of Negro youths," wrote the President, "local private Negro colleges offer the best opportunity for education and advancement. These colleges have their origin deep in the roots of America. Many of them were created by missionary effort.

"Their continued growth and improvement should be a source of pride to all Americans, for they represent the sincere efforts of people who have banded together in the American way—to help themselves by helping one another."

Students Raise Funds to Pay Teachers

RUTLAND, VT.—Rutland Junior College students recently embarked on an ingenious program to raise money to pay their teachers' salaries.

The students, led by Louis Salebra, a war veteran and president of the student council, have set out to raise \$10,000 for teachers' salaries and have already collected \$8200 by door to door canvassing, auctions, haircuts and shaves for men, permanent waves for women, shows, dances, bridge parties, teas and rummage sales.

President Benjamin B. Warfield had reported that the college was in serious financial straits, and it was upon that report that the students started the campaign to keep the college going.

Patent Aids Research in Microbiology

NEW BRUNSWICK, N.J.—The establishment of an Institute of Microbiology at Rutgers University was announced recently by Dr. Robert C. Clothier, president of Rutgers.

Dr. Selman A. Waksman, discoverer of streptomycin, will be the first director of the institute, which will be financed from royalties received on the patent for streptomycin taken out by Dr. Waksman in 1945. He has assigned his patent to the Rutgers Research and Endowment Foundation with the understanding that net proceeds will be used to further research, particularly in microbiology.

It is expected that the building to house the Institute of Microbiology will cost \$1,000,000, and will require \$250,000 for its operating expenses. These funds have been authorized in advance by the Rutgers Research and Endowment Foundation, a nonprofit corporation created in 1936 to hold patents and other rights for the benefit of research at the state university.

Moves to Cleveland

CLEVELAND.—Cleveland College will become the new headquarters for the American Association for Adult Education. This announcement was made at the concluding session of the national convention of the association. The action will move the association's headquarters from its present location at Teachers College, Columbia University, to the Middle West.

Administrators of Physical Plants Elect L. L. Browne

FAYETTEVILLE, ARK.—Maintenance and construction costs dominated the discussions of the 36th annual meeting of the Association of Physical Plant Administrators of Universities and Colleges which was held in mid-May on the campus of the University of Arkansas. Ninety-three registered delegates, the largest attendance to date, participated in the three-day meeting.

Dr. W. F. Holman, director of physical plant at the University of Minnesota and president of the association, presided at all meetings of the group. In addition to discussion of maintenance and construction costs, there was considerable study of wage schedules, physical plant records and reports, air conditioning, parking problems, personnel programs, fire protection programs, underground steam installations, and cleaning costs.

Social highlight of the meeting was a trip to famed Eureka Springs, Ark., where one of the afternoon sessions of the convention was held in the main dining room of the mid-Victorian Crescent Hotel.

L. L. Browne, superintendent of buildings and grounds at the University of Arkansas, was elected president, and New Haven, Conn., was chosen as the site for the next meeting, with Yale University as the host institution. E. J. Behler of Yale will serve as vice president and as convention chairman. A. F. Gallistel, University of Wisconsin, was unanimously reelected secretary-treasurer.

Lay Cornerstone for Residence Hall

BUFFALO, N.Y.—The cornerstone for a \$1,240,000 residence hall was laid recently at Buffalo State Teachers College. It is said to be the first college dormitory to be constructed with state funds in New York.

In a letter read by Dr. Harry W. Rockwell, college president, Governor Dewey stated that the Buffalo housing shortage had denied many excellent high school students of the right to prepare for teaching. "I am proud to have had a share in legislation correcting this situation," he declared.

GIFTS AND BEQUESTS

- Roosevelt College announced receipt of a scholarship grant of \$5000 from the recently established Sidney Hillman Foundation. The award to Roosevelt College was the first and largest gift made by the Hillman Foundation to any educational institution.
- Albion College announces the launching of a campaign to raise \$5,000,000 toward future development.
- Morningside College, Sioux City, Iowa, announces that it is reaching the close of its two-year million dollar expansion program. This includes four or five major additions to the campus, as well as a new gymnasium expected to be completed next December.
- Huntingdon College, Montgomery, Ala., announced recently plans for a campaign to raise \$50,000 to enlarge and improve its chapel.
- Wiley College, Marshall, Tex., has announced receipt of a check for \$5000 from Mrs. Mamie E. Fairchild, a graduate and the wife of the late Thornton Fairchild, who was a staunch friend of the institution.
- University of Pennsylvania has received a gift of \$200,000 to the graduate school of medicine from a grateful patient for whom "a remarkable and successful surgical operation" was performed.
- Virginia Polytechnic Institute announced that \$150,000 had been donated to the V.P.I. Educational Foundation, Inc., during its first year of operation. A goal of \$3,500,000 has been set as an objective for the foundation.
- Ohio State University has received \$14,386 from the W. K. Kellogg Foundation for continued support of the course in dental laboratory technology.
- University of Tennessee announced receipt of \$50,000 for expansion of its research program to find the cause and remedy of fluorine conditions affecting livestock and crops on Tennessee farms. The grants were made by the Monsanto Chemical Company of Columbia, Tenn., and the Victor Chemical Works of Mount Pleasant, Tenn., each industry agreeing to give \$25,000 a year.
- Two new memorial scholarship funds, each worth \$10,000, were created recently at Lehigh University. Mrs. Isadore Raiff of New York City

has established the Isadore Raiff Memorial Fund in honor and memory of her husband. This fund is to be used for free scholarships for business administration students. The second \$10,000 fund announced by the university established the Charles W. Parkhurst Research Fellowship. This fund was provided by Mrs. Mary Tudor Parkhurst of Bala Cynwyd, Pa., who died in July 1947, and is also in memory of her husband.

NAMES IN THE NEWS

H. Sherman Oberly, dean of admissions at the University of Pennsylvania, has been named president of Roanoke College, Salem, Va. President Charles J. Smith will retire on July 1 after more than 26 years of service to Roanoke College.



H. S. Oberly

Boylston Green, president of Emerson College, Boston, has been elected vice chancellor and president of the University of the South, Sewanee, Tenn. He will succeed the late Alexander Guerry, who died in the fall of 1948.

Leon Pierson Minear has been named president of Stockton College, Stockton, Calif.

Vernon G. Smith, formerly superintendent of schools at Scarsdale, N.Y., becomes headmaster of St. Johnsbury Academy, St. Johnsbury, Vt., September 1.

Thurman D. Kitchin, president of Wake Forest College, Salem, N.C., plans to retire June 30, 1950. He has been associated with the college for 33 years as professor and dean of the medical school and has served as president since 1930.

Bessie Carter Randolph, president of Hollins College, Hollins College, Va., has announced plans for retirement at the close of the academic year of June 1950.

Payson S. Wild Jr., professor of government and dean of the graduate school of arts and sciences at Harvard University, has been named vice president and dean of faculties at Northwestern University. He will assume his new duties August 1, succeeding Fred Dow Fagg Jr., who some months ago resigned to become president of the University of Southern California.

NEWS

Gladys H. McCafferty, formerly personnel director at Harvard University, Cambridge, Mass., has announced the establishment of a personnel consultant service for schools and colleges. She will maintain offices in Boston and will not retire from the educational field as was reported in a previous issue of COLLEGE AND UNIVERSITY BUSINESS.

Richard Herpers, 32, will become secretary of Columbia University on July 1, succeeding **Philip M. Hayden**. Mr. Hayden will become secretary emeritus on that date after 36 years' active association with the university. Mr. Herpers has served as assistant to the secretary since May 1946.

Harold L. Minkler has been named director of placement at Illinois Institute of Technology, Chicago. His appointment becomes effective September 1 with the retirement of **John J. Schommer**, who has been director of placement since 1938 and athletic director at Illinois Tech since 1913.

Arthur T. Schmehling, member of the Northwestern University staff since 1936, has been named assistant business manager. During the last year he has been acting as assistant to the vice president and business manager, **Harry L. Wells**.

Rev. Ernest E. Smith, president of Sioux Falls College, Sioux Falls, S.D., has announced his resignation, to take effect September 1.

Nicholas Ricciardi, president of Sacramento Junior College, Sacramento, Calif., will retire June 30, according to a recent announcement.

Robert C. Proffitt, formerly manager of the Altoona, Pa., district for Libby, McNeill & Libby, was recently appointed to the new position of manager of food stores and foods buyer at Pennsylvania State College, State College, Pa. Mr. Proffitt has had extensive experience with nationally known food processing organizations and served during the war for six years with the quartermaster corps.

Dr. Rees Edgar Tulloss, president of Wittenberg College, Springfield, Ohio, will retire as president of Wittenberg on August 31. He will assume the direction of the fund campaign being conducted by the United Lutheran Church in America for purposes of raising \$6,000,000 in 1950 to be allocated for educational purposes.

Alonzo G. Moron, acting president of Hampton Institute, Hampton, Va., has been elected president. The first Negro in the history of Hampton Institute to hold the post, he succeeds Dr. Ralph P. Bridgman, who resigned in 1948.

Lewis B. Sebring Jr., member of the editorial staff of the *New York Herald Tribune*, has been named director of public relations at Union College, Schenectady, N.Y. He will succeed **Francis C. Pray**, who will become assistant to the president of Hofstra College, Hempstead, N.Y.

Capt. Frederick G. Richards, U.S.N., director of the naval R.O.T.C. unit at Princeton University, has been named headmaster of Hun School, Princeton, N.J. Capt. Richards succeeds Maj. **Robert G. McAllen**, who will devote full time to a business career.

John S. Millis, president of the University of Vermont, has been named president of Western Reserve University, Cleveland, to succeed **Winfred G. Leutner**. Dr. Millis' appointment will become effective September 1.

Howard S. Hilley, president of Atlantic Christian College at Wilson, N.C., will retire on June 30 after 30 years of service to the institution.

Fred G. Livingood, dean of Washington College at Chestertown, Md., has been appointed acting president until a successor to the late **Gilbert Wilcox Mead** can be named.

Samuel N. Stevens, president of Grinnell College, Grinnell, Iowa, has been named by President Truman as one of the six members of the board of visitors to the United States Military Academy at West Point, N.Y. Dr. Stevens' appointment is for a three-year period. The number of visitors include 15 members, nine appointed by Congress and six by the President.

Alexander C. Gray, retired president of Eureka College, Eureka, Ill., died recently at his home in Columbia, S.C., where he had been living since his retirement in 1939.

DIRECTORY OF ASSOCIATIONS

Association of College and University Business Officers

Central Association

President: **Herbert Watkins**, University of Michigan; secretary-treasurer: **L. R. Lunden**, University of Minnesota.

Convention: Joint meeting with Western Association, June 26-28, Denver.

Eastern Association

President: **Boardman Bump**, Mount Holyoke College; secretary-treasurer: **Irwin K. French**, Middlebury College.

Convention: December 4-6, Chalfonte-Haddon Hall, Atlantic City, N.J.

Southern Association

President: **C. B. Markham**, Duke University; secretary-treasurer: **Gerald D. Henderson**, Vanderbilt University.

Western Association

President: **Paul A. Walgren**, University of Southern California; secretary-treasurer: **George A. Hell**, California Institute of Technology.

Convention: Joint meeting with Central Association, June 26-28, Denver.

Schools for Negroes

President: **V. D. Johnston**, Howard University; secretary: **L. H. Foster Jr.**, Tuskegee Institute.

Association of College Unions

President: **Donovan D. Lancaster**, Bowdoin College; secretary-treasurer: **Edgar A. Whiting**, Cornell University; editor of publication: **Porter Butts**, University of Wisconsin.

Association of Physical Plant Administrators of Universities and Colleges

President: **L. L. Browne**, University of Arkansas; secretary-treasurer: **A. F. Gallistel**, University of Wisconsin.

Convention: Yale University, New Haven, Conn.

American College Public Relations Association

President: **E. Ross Bartley**, Indiana University; secretary-treasurer: **Edward P. Vonderhaar**, Xavier University, Cincinnati.

College and University Personnel Association

President: **Donald E. Dickeson**, University of Illinois; secretary-treasurer: **Marion Darr**, Purdue University.

National Association of College Stores

President: **Herbert Hays**, Berea College; executive secretary: **Russell Reynolds**, 189 West Madison Street, Chicago.

National Association of Educational Buyers

President: **Holger B. Bentzen**, George Williams College; secretary-treasurer: **Bert C. Ahrens**, 45 Astor Place, New York, N.Y. Convention: May 3-6, Houston, Tex.

PRODUCT INFORMATION

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"Foremost" Bookkeeping Machines

156 M. F. Robertson Sons, Inc.
Vapomatic Air Purifier

157 Sterling Tool Products Co.
Portable Electric Sander

158 Metropolitan Paving Brick Co.
Facing Tile Colors

159 G. S. Blakeslee & Co.
Small Dishwasher

160 Michael Flynn Mfg. Co.
Locking Window Hardware

161 Wyandotte Chemicals Corp.
Machine Dishwashing Compound

162 Underwood Corporation
Fenfold Writing Machine

163 Spartan Tool Co.
Sink Line Cleaner

164 Royal Metal Mfg. Co.
Square Chrome Plated Furniture

165 S. Blickman, Inc.
Urn Burner

166 The American Floor Surfacing Mach.
Co.
"Super Eight" Floor Sander

Key:

167 Sterling China Co.
Sterling Chinaware

168 Gulf Oil Corp.
Insecticide

169 Recordak Corp.
Recordak Duo Microfilmer

170 Quaker Maintenance Company, Inc.
Handeasy Wall Washer

171 Talk-A-Phone Co.
Intercommunication System

172 Mastic Tile Corporation of America
Asphalt Tile Flooring

173 Magikitch'n Equipment Corp.
"Midget" Grill

174 Spiegel, Co.
Plastic Toilet Seat

175 Troy Laundry Machinery Div.
Olympic Extractor

176 Super-Vent Co.
Awning-Type Window

177 Johns-Manville
"Soiled Control"

178 Ampro Corporation
"The Ampro-Arc 20"

Key:

179 C. A. Dunham Co.
Bulletin No. 634B

180 The Sanymetal Products Co., Inc.
1949 Edition, Catalog 26

181 Schulmerich Electronics, Inc.
"The Schulmetronic Recorded Hymnal"

182 British Information Services
"A Selected List of Films"

183 Maple Flooring Manufacturers Assoc.
"Finishing Northern Hard Maple Flooring"

184 Henry Weis Mfg. Co., Inc.
"Weisway Cabinet Showers"

185 E. I. du Pont de Nemours & Co.
"Color Conditioning" Report

186 Pittsburgh Coming Corp.
"Make the Most of Daylight!"

187 The Ric-wil Co.
Booklets

188 Pratt & Lambert, Inc.
Color Calibrator

189 Florida Citrus Commission
"Citrus Fruits and the Nation's Health"

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Electrical Instruments

232 Wickwire Spencer Steel Div.
Wire Fence

233 Williams Company
Steel Wooler

Setting New Standards

UNIVERSITY TABLEWARE

Designed with the Advice and Cooperation of Home Economists, Dietitians, Nurses and Doctors

Proved by year-round use in many of the world's largest plastic tableware installations . . . Devine Ware Sets New Standards—offers many exclusive advantages for both table and tray service as well as storing foods in schools, hospitals and public restaurants.

Yes—tasteless! Totally without odor!

Yes—withstanding boiling heat! Made of heavily reinforced Melmac.

And here's a new one—**Positive Air Circulation**. So engineered that while it stacks in one-third the ordinary space, patented contact points provide free air circulation, and negative bacteria count.

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Home Economists are delighted with the beauty, economy, sanitary quality, convenience, durability and exclusive features of Devine Ware. It is in regular use at hundreds of schools, universities, colleges, hospitals, hotels, and government institutions. Continuity of supply insured because all Devine Ware items are molded in tremendous quantities by General Electric for Devine.



This picture shows the Devine Ware Four-some Dinner Set—20 pieces—and the safe-shipping, close-fitting carton in which it is packed.

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THE ORIGINAL and ONLY COMPLETE LINE of HEAVY-DUTY PLASTIC TABLEWARE . . .



The Devine Ware coffee cup with non-slip top or bottom-fitting saucer and stacking cover is a triumph of engineering convenience. Heavy duty Devine Ware comes in 6 Aztec colors and 6 Pastel shades.

Devine Ware is a *complete line*, including scores of convenient special shapes, sizes and close fitting containers like this Foursome Bowl Set with Covers—1 pint, 1 quart, 2 quarts, 4 quarts.



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Gentlemen: Please ship to me immediately the following Devine Ware:

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assorted Colors

List Price \$12 less 25% or \$9.00 each Postpaid

ENCLOSED IS CHECK/M.O. for \$_____

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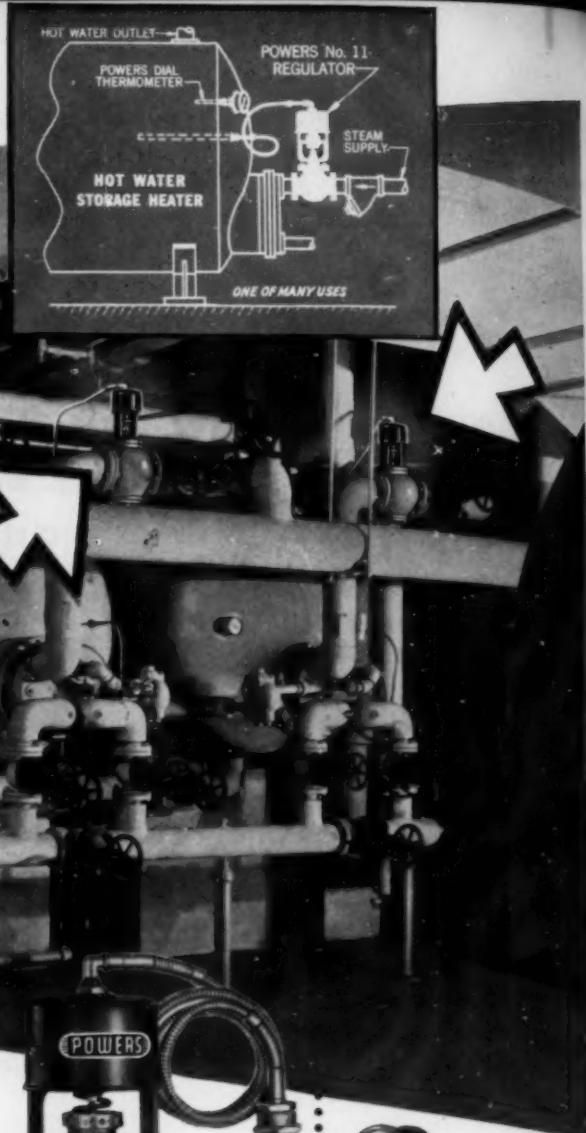
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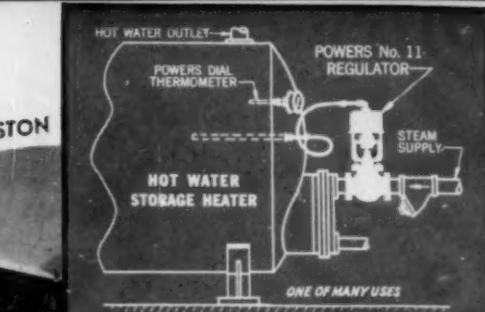
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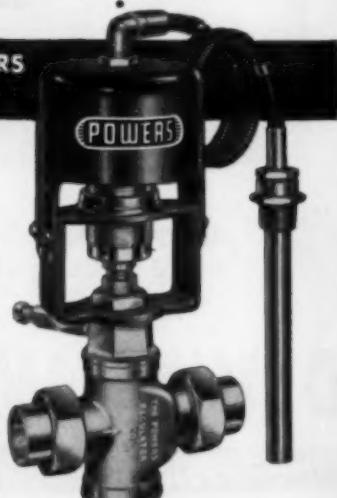


At Left: Regulator with flanged iron body balanced valve, sizes 2½ to 6"

No. 11 REGULATORS Self-Acting

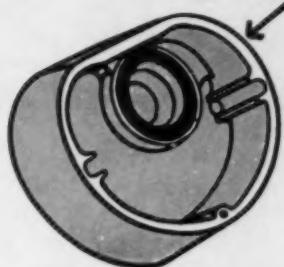
Right: Bronze body balanced valve with union connections, sizes ½ to 2". Single seat valves with union connections ¾ to 1½". 3-Way valves for mixing hot and coldwater. Indicating Regulators with dial thermometer. Stem Lubricator and Safety-Over-heat protection standard on sizes to 2" incl.

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 Bulletin 329



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... prevent dust and other foreign material injurious to precision optics from sifting down through eyepieces into prisms and nosepieces. Patented design of the housing features a Neoprene ring which makes contact with the top surface of the Porro prism. Prism assemblies are protected and kept dust-tight for the full life of the instrument.

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Completely re-designed optical system in the Bausch & Lomb Stereoscopic Microscopes offer wider fields.

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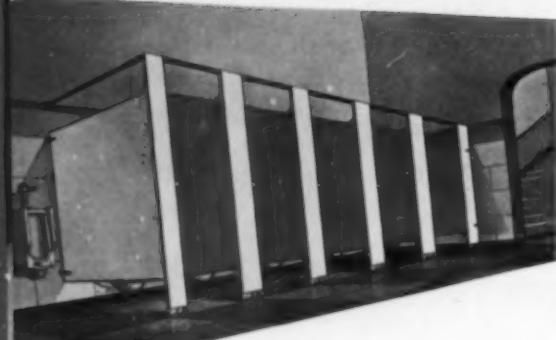
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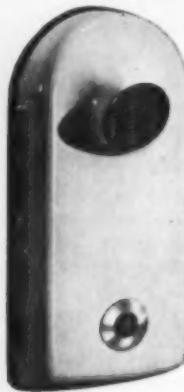
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of Towels

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Crane supplies not
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that makes them
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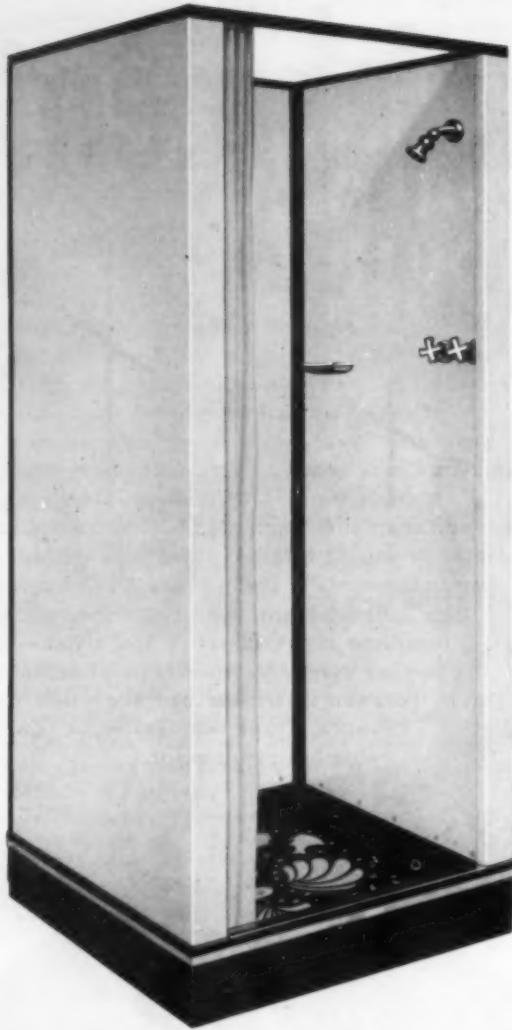
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Especially for the college or university, summer's a grand time to put in showers. In the summer, when your student load is low, installation is easier than ever. And in the summer you'll get extra hearty thanks for providing the better living that Weisway Cabinet Showers add to a campus.

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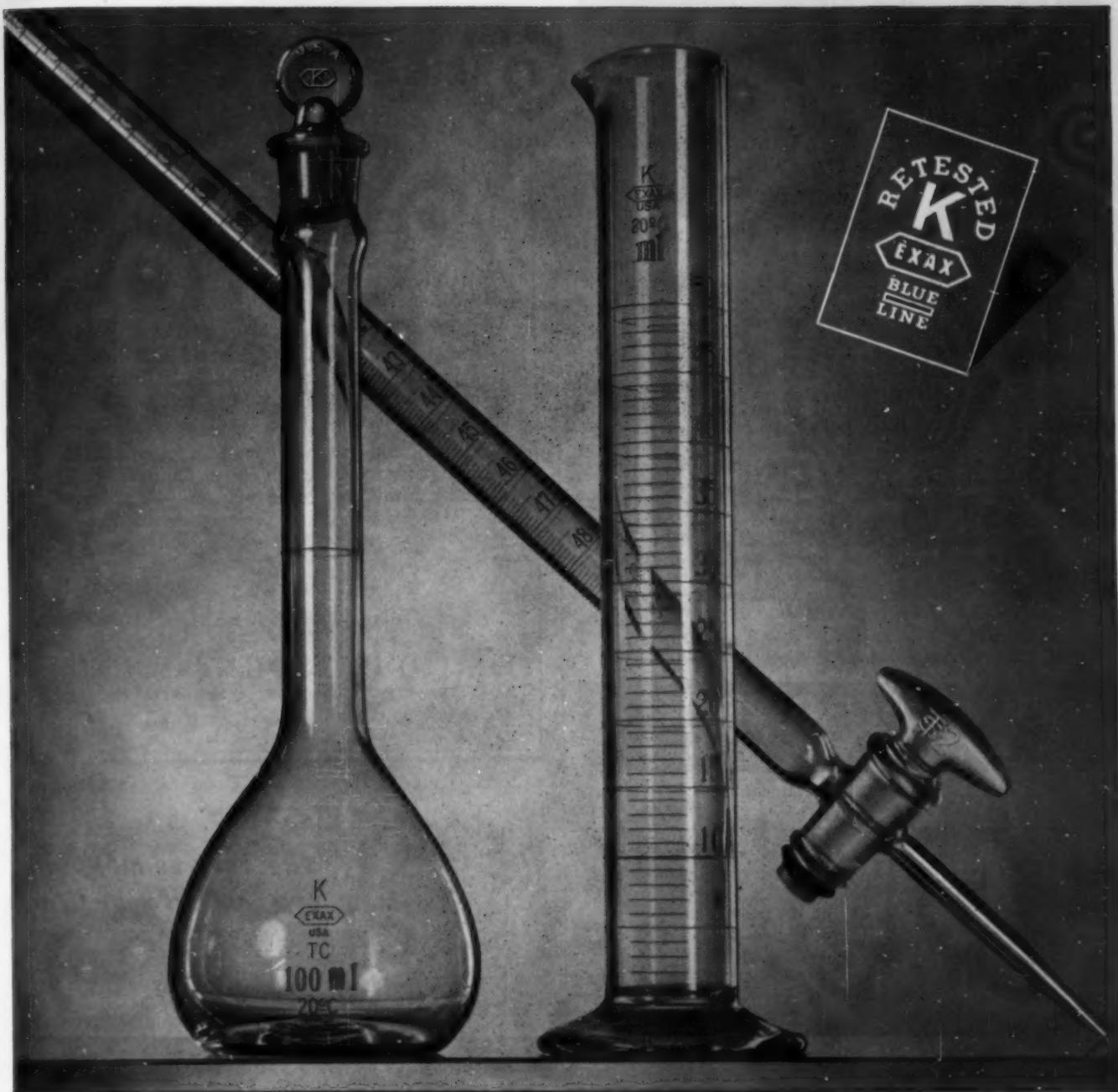
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*Kimble EXAX RETESTED Flask No. 28015;
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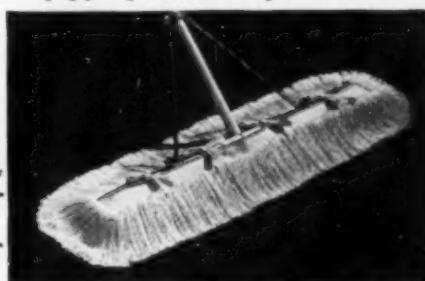
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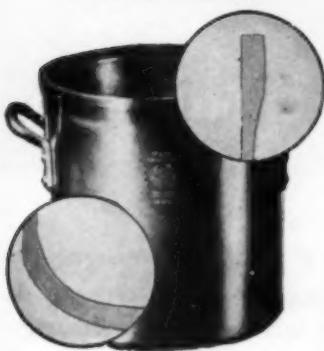
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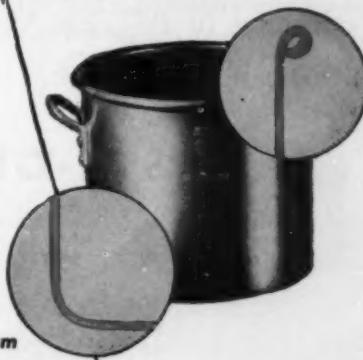
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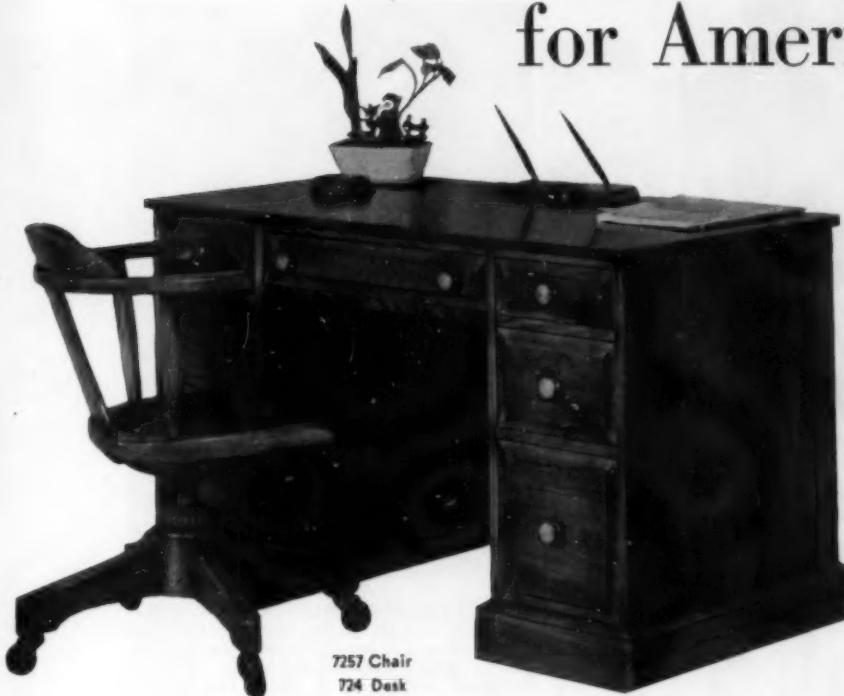
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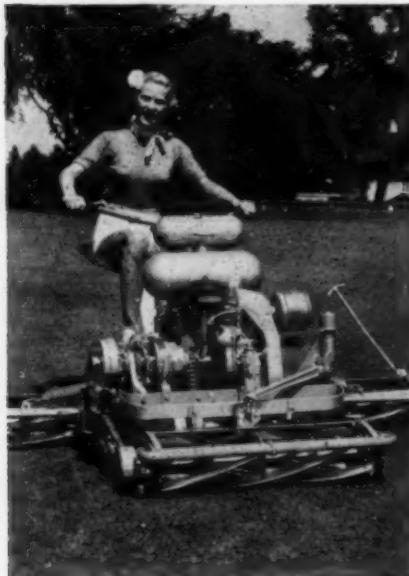


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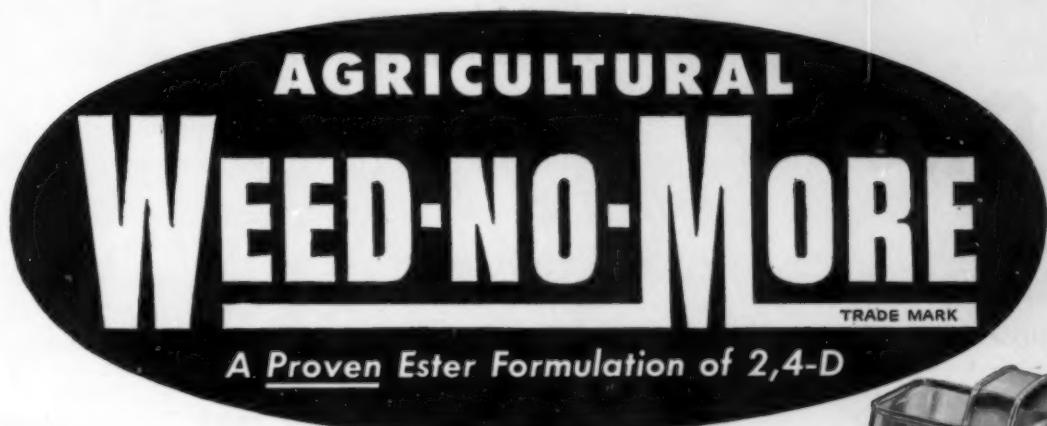


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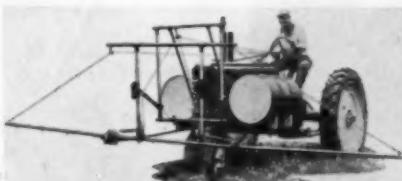
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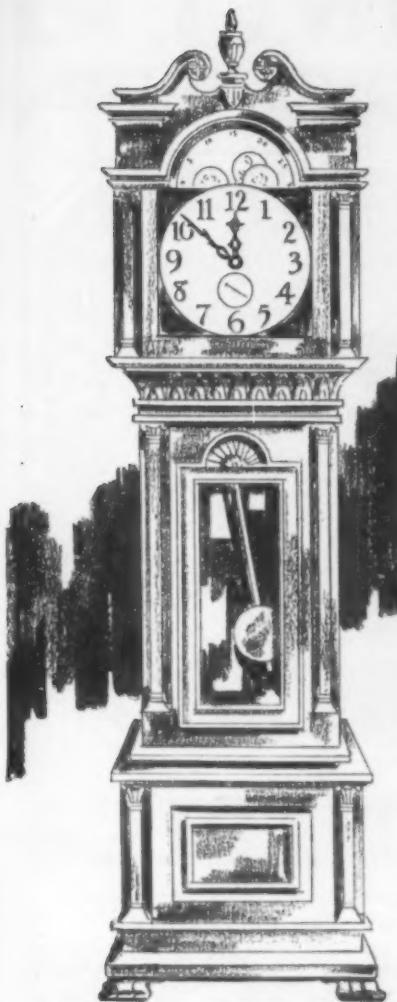


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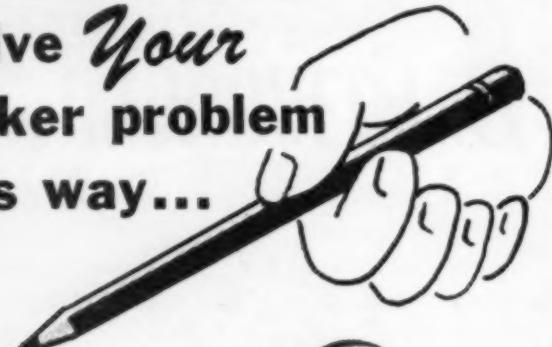
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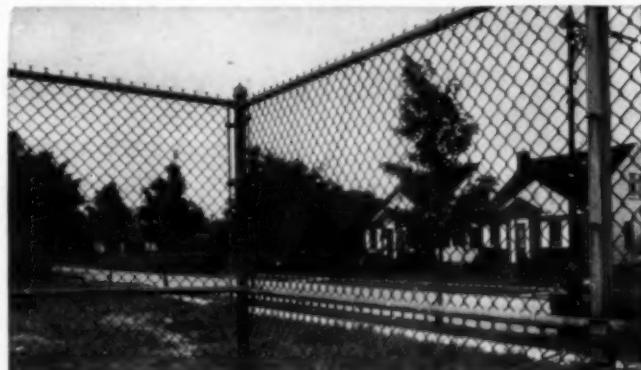


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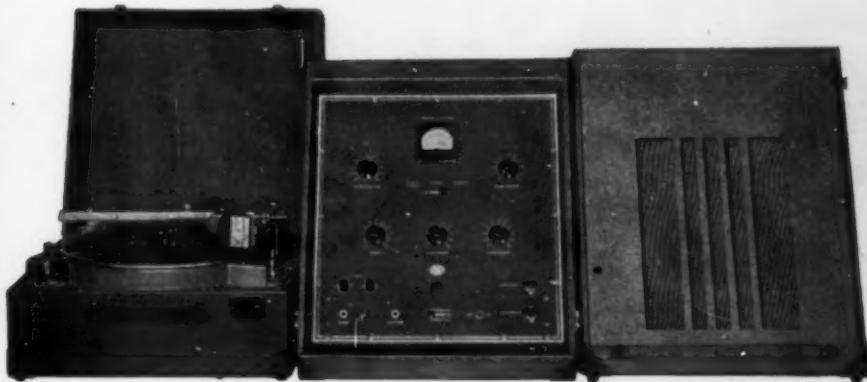


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IDEAL Power Mowers are designed to be true time savers—not time wasters. You can trust IDEAL heavy duty models for real economy in lawn care. From the big, heavy, 5 H.P. riding type "Caretaker" down to the smaller 1.5 H.P. walking type "New Victor", the entire IDEAL line is characterized by ruggedness, efficiency and mechanical reliability.

See your IDEAL dealer for information on models to suit your needs. Or write for catalogs.



IDEAL
POWER LAWN MOWER CO.

Dept. CB-49, Springfield, Mass.

To inspire "The Artist's Touch"

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made in England since 1789



In 1789, the year Washington took his presidential oath, Thomas and Richard Rowney opened a little shop in London to supply the needs of artists. Constable became their friend and customer; and the vitality of his canvases is an enduring testimony to the excellence of their wares.

Today, the same old-time skill, care, and craftsmanship employ scientific precision methods to produce a range of artists' materials of unsurpassed quality. For instance:

ROWNEY'S ARTISTS' WATER COLOURS are rigorously tested for permanence by exposure to 500 hours' direct summer sunlight.

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ROWNEY'S CARBON PENCILS give the finest possible line without gloss.

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WANT ADVERTISEMENTS

The rates for want advertisements are: 10 cents a word; minimum charge, \$2.50.

Address replies to COLLEGE AND UNIVERSITY BUSINESS, 919 N. Michigan Avenue, Chicago 11, Ill.

POSITIONS WANTED

Food Executive—Cafeteria and dining room; age 35; 17 years' experience; purchasing, cost control, menu making and general supervision; available at an early date. Write Box CW 52, COLLEGE AND UNIVERSITY BUSINESS.

Dormitory Manager—College graduate, now employed in large eastern university, desires to make change; prefers eastern connection but will go anywhere; experienced in maintenance, purchasing, room assignments, rentals and collections, personnel problems. Write Box CW 58, COLLEGE AND UNIVERSITY BUSINESS.

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now presently engaged having served many years in college enterprises. Write Box CW 60, COLLEGE AND UNIVERSITY BUSINESS.

Business Manager—General administrative experience, but none in the field of education; mature; would enter field in boarding school or small college; north preferred. Write Box CW 61, COLLEGE AND UNIVERSITY BUSINESS.

Dietitian—Experienced; wants to supervise college dining room or school lunch room; member ADA; central or southern states preferred. Write Box CW 62, COLLEGE AND UNIVERSITY BUSINESS.

Controller or Treasurer—Individual with considerable experience in university accounting and auditing; age 37, B.S. and C.P.A. Write Box 63, COLLEGE AND UNIVERSITY BUSINESS.

Business Manager—Small College; successful industrial purchasing agent and personnel worker; licensed architect; can work harmoniously in school situation; northeast favored; Yale graduate, 36, single. Write Box CW 64, COLLEGE AND UNIVERSITY BUSINESS.

Investor—Long experienced teacher seeks investor for new school fulfilling much needed

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POSITIONS OPEN

Dietitian—For a middlewestern liberal arts college; to operate girls' dining hall seating 200; nine months operations; ADA membership preferred; for September, 1949. Write Box CO 24, COLLEGE AND UNIVERSITY BUSINESS.

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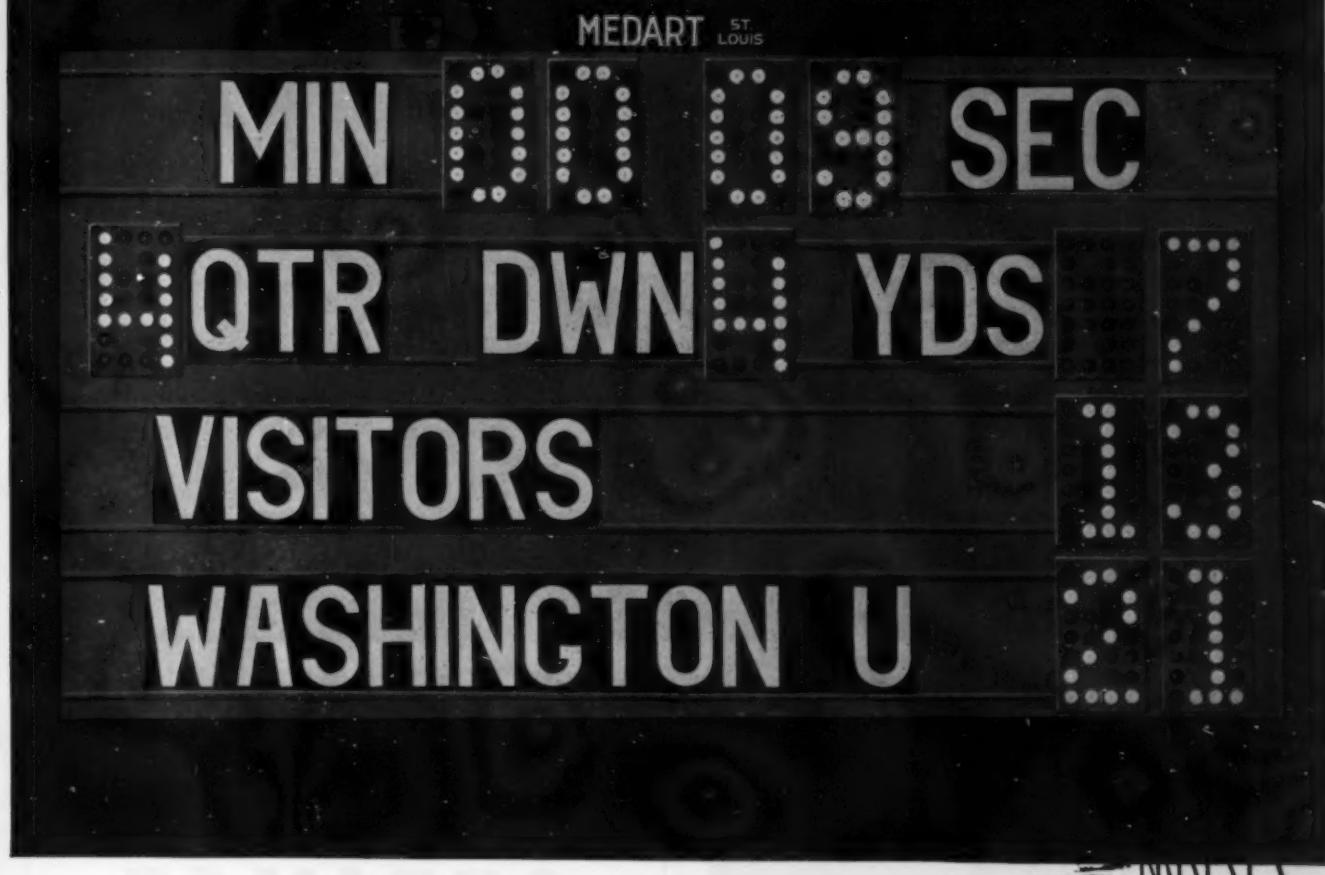
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Someone to fill a vacancy in your staff—a Business Manager—Superintendent of Buildings and Grounds—Purchasing Agent—Director of Food Service and Dormitories?

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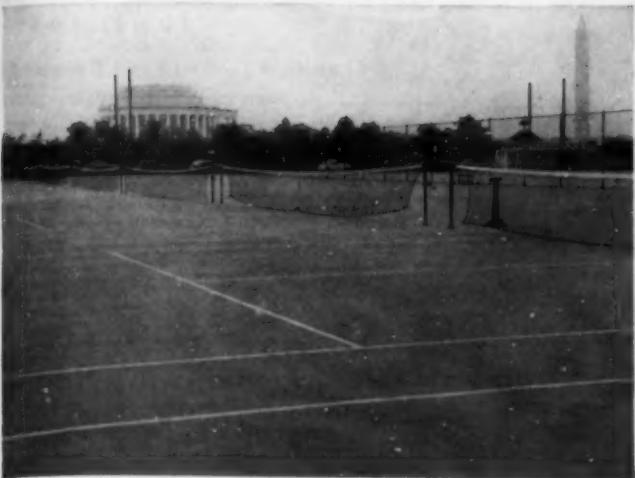
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Between editorial material and advertising pages in this and every issue —there's a detachable, postage prepaid card . . . to help you get product information on one or a dozen items with a minimum of effort and time. As you read the advertising pages and the descriptions in the "What's New" section, check the items that interest you . . . use the card. Sign it, mail it. The manufacturer of each item checked will be asked to send you complete details, no charge, no obligation.

COLLEGE and UNIVERSITY BUSINESS



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RESILIENT—easy on feet and legs.

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Learn how to lick these problems!



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RISING INSURANCE RATES
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**This new booklet
reveals CAUSE and CURE**

Here's 10 minutes of eye-opening reading . . . the actual story of a company president (we call him Mr. Higby) who flopped on the highly polished floors in his office, and wanted to know why.

This fast-moving booklet follows Mr. Higby as he probes into the little-known subject of floor care. He asks (and you learn the answers to) questions you've probably wondered about yourself:

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You'll find the explanations revealing . . . in some cases, startling. You'll also learn how the Legge System's personal engineering plan helps you maintain your floors scientifically with Non-Slip safety . . . and saves you money in the bargain!

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Many executives learned how to slice overhead costs from an earlier version of *Mr. Higby Learned About Floor Safety the Hard Way*. This up-to-date edition is even more informative . . . a complete executive handbook on the safe-and-sound care of floors. Now . . . before you spend another unnecessary floor dollar . . . send the coupon for your free, no-obligation copy.

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Please send me a free, no-obligation
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Title _____

Type of floor _____

Area _____ sq. ft. C-A4

WHAT'S NEW

JUNE, 1949

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 40. Just circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Bookkeeping Machines



The new line of bookkeeping machines, known as the "Foremost" 500 and 600 series, has been developed in modern, functional design. New features include a streamlined, non-glare case; finger-grooved, organ-type keys for simpler operation; optical lucite covering the registers which magnifies all figures for increased visibility, and special insulated, noise-absorbing Aphonic Stand to reduce operator fatigue and prolong machine life. All models in the new design are completely electrified.

Two, three or more related forms may be produced at one time on the new machines and many specific applications may be handled on one machine since the operator can add, remove or reposition registers in a matter of seconds. Front feed insertion and collation permits one procedure operation. Remington Rand, Inc., Dept. CUB, 315 Fourth Ave., New York 10. (Key No. 155)

Air Purification

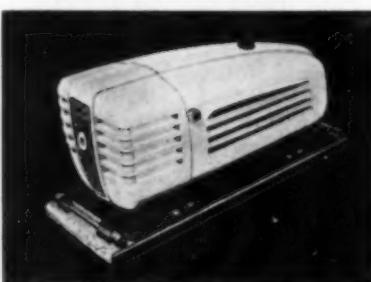
The new Vapomatic vaporizer is a device developed for use with glycol to disinfect the air. The vaporizer generates an invisible cloud of glycol, which is tasteless, odorless and non-toxic, into the air at a uniform, controlled rate at a low cost. The unit operates from any standard light receptacle with heat generated through the use of an infra-red incandescent lamp.

The Vapomatic is attractive and inconspicuous in appearance and is designed to fit into a corner of the classroom, reception room, office, laboratory or other area for air disinfection. The germicidal effects of propylene and thioethylene glycol appear to be established and the Vapomatic was developed to permit the use of this product in combat-

ing airborne infections. M. F. Robertson Sons, Inc., Dept. CUB, Lansdowne, Pa. (Key No. 156)

Portable Electric Sander

Desk and furniture refinishing as well as other general maintenance and repair work can be handled efficiently with the new, low cost, portable electric sander recently introduced. Known as the Century, the new sander weighs only 4½ pounds and features a high speed motor encased in a streamlined die-cast aluminum alloy housing. It operates on the "Orbital Motion" sanding action principle designed to enable the operator to control the exact amount of surface material to be removed.



The light, compact unit reduces operator fatigue while producing power necessary for surface removal or finishing of all types of wood, metal, composition and plastic items. Its small size and low clearance make it possible to sand up to corners and under low obstacles without damage. The new Century is carefully constructed of quality materials and is designed for easy servicing. Sterling Tool Products Co., Dept. CUB, 1340 N. Milwaukee Ave., Chicago 22. (Key No. 157)

Facing Tile Colors

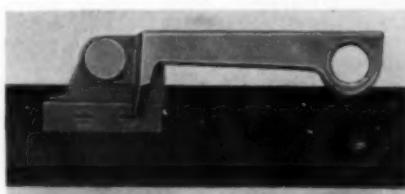
The Chromatic Line of ceramic glaze structural facing tile contains nine new colors to provide flexibility in design and decorative harmony. Field shades include Venetian Cream, Colonial Mottle, Blush Coral, Blush Coral Mottle, Spring Yellow, Pewter Gray, Gulfstream Green, Glacier Green and Silver Pine Mottle. Trim shades are Chocolate, Fall Red and Ebony. Metropolitan Paving Brick Co., Dept. CUB, Canton, Ohio. (Key No. 158)

Small Dishwasher

The Niagara Jr. is a new dishwasher designed for small institutions or feeding units serving 150 persons or less per meal. It is a sink-high machine with a wash tank and a rinse tank, each heated to the proper temperature by individual gas burners or steam injectors. The "Niagara Power Paddle," which is a paddle wheel for throwing a large volume of water and washing solution over the dishes with great force, is used in the new small unit to ensure thorough washing. A swivel faucet with hot and cold taps permits the unit to be used as a regular sink when not being operated as a dishwasher. The new Niagara Jr. is available in either Duco finish or stainless steel. G. S. Blakeslee & Co., Dept. CUB, 1844 S. 52nd Ave., Chicago 50. (Key No. 159)

Window Hardware

New locking hardware has been designed for Lupton Architectural Projected Metal Windows. The new locking handle for open-in ventilators has latch and keeper concealed within the meeting rail. The new locking handle for open-out ventilators is designed for operation by hand or by window pole. Ventilators are locked or unlocked with a slight turn of the new handle which is designed for comfortable grip and attractive appearance. It is made of solid bronze for long, trouble-free operation. Michael Flynn



Locking Handle No. 3010.
For open-out ventilators.



Locking Handle No. 3011.
For open-in ventilators within reach from floor.
Mfg. Co., Dept. CUB, 700 E. Godfrey Ave., Philadelphia 20, Pa. (Key No. 160)

Machine Dishwashing Compound

The formula of Wyandotte Keego, the compound for machine dishwashing, has been improved to increase its capacity for washing in water containing hardness due to calcium or magnesium salts. The desirable properties of the original formula—mildness to silverware, protective action on interior fittings of machines, high suspending power for food residues, free rinsing and the ability to remove many types of stains from chinaware—have all been retained, thus making the product especially effective for machine dishwashing. **Wyandotte Chemicals Corp., Dept. CUB, Wyandotte, Mich.** (Key No. 161)

Fanfold Writing Machine

A new electric keyboard fanfold writing machine has been designed to produce more and better multi-copy work with less physical effort. It combines fully electric keyboard for speed and uniformity of type impressions with improved automatic features for simplified machine manifolding operations.

The new machine is equipped with an automatic electric carriage return and a 2 position intermediate carriage return feature. Designed for using continuous forms, there is also a transparent form cutting knife for unobstructed insertion of loose forms and the form measuring guide has been redesigned to facilitate removal of forms. The typewriter keyboard is standard, thus being adaptable for use by all typists. **Underwood Corporation, Dept. CUB, 1 Park Ave., New York 16.** (Key No. 162)

Sink Line Cleaner

The new Model 600 Spartan Electro-Rod sink line cleaning machine has a new powerful, reversible motor with new gear train mounted on hardened and



ground shafts rolling in needle bearings, 3 conductor cord providing ground wire and a new off-on switch which is designed to prevent shock. The compact

unit is so designed that the operator can hold and guide both the power unit and the cable with one hand and is small enough to be held up to inaccessible cleanouts. It is designed for rodding lines and pipes from 1 to 4 inches in diameter and has a capacity of 100 feet of $\frac{1}{2}$ inch sewer cable. Attachments permit cleaning, scraping or brushing condenser tubes, process lines and water boiler piping. **Spartan Tool Co., Dept. CUB, 6007 N. Lincoln, Chicago 45.** (Key No. 163)

Square Tubing Metal Furniture

A new line of chrome plated square tubing metal furniture has recently been announced as an addition to the Royalchrome line. The result of many months of experiment and research, the new line is designed for attractive appearance and resistance to hard usage. The chrome plated square metal tubing lends itself



to modern, functional design and is constructed to give the same satisfaction that tubular Royalchrome has always given.

Available in the new line are armchairs, side chairs, settees, swivel chairs, tables and a costumer. Chairs and settees have seats and backs upholstered in leatherette or leather, and in fabric in a variety of colors. The new chrome plated line supplements the line of square tubing metal furniture now available in colored finishes. **Royal Metal Mfg. Co., Dept. CUB, 175 N. Michigan Ave., Chicago 1.** (Key No. 164)

Urn Burner

The line of thermostatically-equipped, gas-heated Blickman coffee urns is now furnished with an improved type burner. Attached near the bottom of the urn, the new burner leaves the urn stand area completely open and accessible and facilitates cleaning. The burner is set at the correct distance from the bottom of the urn for proper combustion and efficient heating. **S. Blickman, Inc., Dept. CUB, Weehawken, N.J.** (Key No. 165)

Floor Sander



The American "Super Eight," a new high speed floor sander, is the result of years of research and testing and is designed for faster sanding, thus reducing time, cost, and operator fatigue. It is a lever type sander powered by a specially designed 2 h.p. American motor. Drum speeds can be quickly adjusted to give greatest efficiency under varying conditions of voltage, flooring, abrasive paper and the like.

A new method of power transmission is employed in the "Super Eight" which lessens the possibility of blowing a fuse where voltage is low. A large, powerful fan and extra large dust bag are designed for "dustless sanding" and the dust pan is quickly removable and readily interchangeable. All vital parts are easily available for servicing and all bearings are permanently lubricated. **The American Floor Surfacing Machine Co., Dept. CUB, 518 S. St. Clair St., Toledo 4, Ohio.** (Key No. 166)

Sterling Chinaware

A new line of functional, streamlined vitrified chinaware, designed by Russel Wright, is being introduced by Sterling China Company for institutional use. The new line offers 27 different pieces to take care of every institutional need. It will be available in a choice of 4 colors; Ivy Green, Straw Yellow, Suede Gray and Cedar Brown. **Sterling China Co., Dept. CUB, Wellsville, Ohio.** (Key No. 167)

Insecticide

A new insecticide has been announced which employs the recently developed insecticidal chemical, Chlordane, with pyrethrins and organic theocyanates. Known as Gulf Spray Roach and Ant Killer, the product has proved highly successful in the extermination of roaches and has a residual effect as high as six months. **Gulf Oil Corp., Dept. CUB, 3800 Gulf Bldg., Pittsburgh 30, Pa.** (Key No. 168)

Recordak Duo Microfilmer



The new Recordak Duo Microfilmer exposes only half the width of 16 mm. film at one time in microfilming records, thus tripling the image capacity per foot of film. Two film units, one with a reduction ratio of 35 to 1, the other 28 to 1, use a 50 foot roll of 16 mm. film. The film is run through the machine once to expose one half of the width, then reversed and run through to expose the other half. The new machine will automatically reverse records, when desired, so that both sides can be photographed on one half the width of the film, the front and back images following one another.

The desk-type cabinet is streamlined, on a pedestal base, and constructed of sheet steel finished in metallic gray, chromium trimmed. All corners are rounded and reflections are eliminated with the dull gray linoleum top. An enclosed storage space for film supplies and auxiliary film units is below the receiving hopper. **Recordak Corp., Dept. CUB, 350 Madison Ave., New York 17.** (Key No. 169)

Wall Washer

The new Handeasy is an attachment for washing walls, ceilings, moldings, corrugated metal, pipe risers and rough brick. The attachment, which is entirely mechanical, is easily held in the hand and cleaner and rinse are fed into the Handeasy by fingertip control. It is easily operated, thus saving time and effort on the part of the operator. Terry cloth mitts are used over both sponge attachments resulting in streakless, chemically clean surfaces. The mitts are easily removed when saturated by dirt and are washable. **Quaker Maintenance Company, Inc., Dept. CUB, 124 W. 18th St., New York 11.** (Key No. 170)

Inter-Communication System

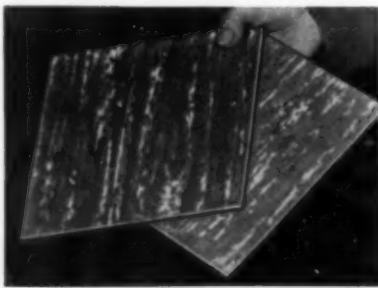
The new "Chief Forty-Niner" inter-communication system has special features increasing its flexibility and adaptability. The "Dynasonic Selector" is a feature designed to make the one model meet all requirements by furnishing optional performance for each unit in the system. The user selects

the type of performance desired of each unit and may change his selection as requirements indicate. Six, 20 and 30 capacity Master Stations can be used in the same system and can be intermixed with Staff Stations.

Another feature of the new system is the Multi-Matic Selector which provides 12, 20 and 30 station capacity with only 12 push buttons. The manufacturer states that the system is Underwriters' Laboratories approved and is adaptable for large or small institutions. **Talk-A-Phone Co., Dept. CUB, 1512 S. Pulaski Rd., Chicago 23.** (Key No. 171)

Asphalt Tile Flooring

The new MA.TI.CO asphalt floor tile is manufactured with new, improved basic raw materials which permit the introduction of pastel and decorator colors in the finished product.



The new yellows, greens, blues and other color blends are designed to harmonize with traditional and modern types of interior decoration and would be particularly applicable for use in dormitories and other housing units. Solid colors as well as marbleized effects are available in this economical, long-wearing floor tile. **Mastic Tile Corporation of America, Dept. CUB, Newburgh, N.Y.** (Key No. 172)

"Midget" Grill

Smaller institutions will be interested in the "Mighty Midget" gas char-broiler and grill unit which offers speed, efficiency and economy in cooking. Requiring only a 15½ inch square counter space, the unit cooks food from above and below, with glowing radiant heat, without the use of grease or oil. Assorted foods can be cooked at the same time without cross flavoring. The unit operates with all types of gas. **Magi-Kitch'n Equipment Corp., Dept. CUB, Quakertown, Pa.** (Key No. 173)

Plastic Toilet Seat

The Models LP-20 and LP-40 self-raising and self-sustaining hinge construction toilet seats are now available in white solid plastic. The new seats are

said not to chip, peel, fade or wear and to retain the original luster when washed with soap and water. Hinge construction on both models is plastic covered and sealed against moisture and dirt. **Sperzel Co., Dept. CUB, 123 Fourteenth Ave. S., Minneapolis 4, Minn.** (Key No. 174)

Olympic Extractor

A new bottom-unloading Olympic Extractor with basket 54 inches in diameter has recently been announced. Stainless steel is used for basket containers, curb and cover in the new model. Standard equipment includes "V" belt motor drive, air operated safety cover and automatic timer. The new extractor has a capacity of 400 pounds dry weight. **Troy Laundry Machinery Div., American Machine and Metals, Inc., Dept. CUB, East Moline, Ill.** (Key No. 175)

Awning-Type Wood Window

A patented mechanism which lowers each window vent from the top as it opens outward is a feature of the new awning-type window designed for light and heavy construction. Known as Super-Vent, the window is easily operated by means of a crank which opens the window, composed of three vents, from a fraction of an inch to a full 85 degrees. The window can be locked in any desired position.

The window can be easily cleaned on both sides from the inside of the building and screens are put on the inside, from the inside. The unit provides controlled, draft free air circulation and keeps out rain or snow. Made of wood sash and frame completely assembled at the mill, the Super-Vent window has bronze weather stripping at both top and bottom. Vertical bronze channels are used in the jamb and individual



adjustment plates assure tight closing. **Super-Vent Co., Dept. CUB, 905 W. North Ave., Chicago 22.** (Key No. 176)

Product Literature

- Products which have successfully solved various problems of sound control are described in a brochure entitled "Sound Control" and published by Johns-Manville, 22 E. 40th St., New York 16. Typical installations are illustrated by photographs, and construction details and application methods are shown in drawings. Noise quieting, acoustical correction and vibration isolation are covered in the brochure. (Key No. 177)
- A new Ampro brochure telling the why, when, how and where of 16 mm. arc projection has been published by the 16 mm. Arc Equipment Department of Ampro Corporation, 2835 N. Western Ave., Chicago 18. The brochure supplements the new planning service set up by Ampro to answer questions in connection with the use of high intensity 16 mm. arc movie projectors. The new service is available without charge to architects, visual education directors and others interested in this problem. (Key No. 178)
- Bulletin No. 634B illustrates and describes 36 different products—unit heaters, cabinet convectors, baseboard convectors, finned radiation, pumps and steam specialities—offered by C. A. Dunham Company, 400 W. Madison St., Chicago 6. This new 2 color, 12 page condensed version of the general products catalog of heating appliances developed by this company presents specifications, capacities and applications of all heating appliances listed. (Key No. 179)
- The new 1949 Catalog 86 issued by The Sanymetal Products Co., Inc., 1701 Urbana Rd., Cleveland 12, Ohio, shows 5 types of Sanymetal Toilet compartments and toilet room environments in colors. Construction details, specifications, hardware and a description of the materials used are included as well as a color chart and 21 color chips to illustrate the wide variety of colors available in these toilet compartments. (Key No. 180)
- A leaflet has been issued on "The Schulmetronic Recorded Hymnal" listing hymns recorded by Dr. Alexander McCurdy on the "Carillonic Bell" instrument. The list includes better known hymns of all denominations and is published by Schulmerich Electronics, Inc., Sellersville, Pa. (Key No. 181)
- "A Selected List of Films From Britain, 1949" is an illustrated review of 16 mm. sound motion pictures available from British Information Services, 30 Rockefeller Plaza, New York 20. Brief information is given on each film together with information on its area of use. All films are indexed under subject matter. (Key No. 182)
- How to achieve long-lasting attractive hardwood floors and how to maintain them economically and properly is covered in a new illustrated folder, "Finishing Northern Hard Maple Flooring the MFMA Way," issued by the Maple Flooring Manufacturers Assn., 46 Washington Blvd., Oshkosh, Wis. The new folder features timely information on many subjects in the interest of attractive hardwood floors and reviews MFMA research in the development of successful and effective finishes. Other features include information on sanding procedure, tips on the proper application of floor finishes, suggestions for surface cleaning and instructions to builders and engineers. (Key No. 183)
- An attractive booklet has been prepared on "Weisway Cabinet Showers" which should provide helpful information for those designing or planning new dormitory facilities or the improvement or remodeling of old buildings. Published by the Henry Weis Mfg. Co., Inc., Elkhart, Ind., the booklet shows drawings of practical bathroom layouts for greatest versatility and practical application. (Key No. 184)
- The psychological aspects of light and color are discussed in detail in an attractively handled "color conditioning" report prepared by E. I. du Pont de Nemours & Co., Wilmington, Del. Entitled "Color Conditioning Recommendations," the portfolio contains a series of "color conditioning reports" covering such subjects as warmth and coolness in color, appetite appeal in color, color and climate, emotional reaction to color and similar aspects. Paints capable of withstanding severe abuse, developed to resist soiling and assure practical maintenance over long periods, are discussed. Two special sections in the report of particular interest to college administrators, one on "Color Conditioning for Schools" and another on "Color Conditioning for Offices," contain helpful information on seeing comfort and good environment for study and to avoid glare and other unfavorable conditions in classrooms and the functional use of color in offices to improve seeing conditions and personnel relationships while simplifying maintenance. (Key No. 185)
- "Make the Most of Daylight With PC Functional Glass Blocks" is the title of a helpful 16 page booklet on the control of natural daylight through the use of functional glass block fenestration issued by the Pittsburgh Corning Corp., 632 Duquesne Way, Pittsburgh 22, Pa. Included are data on types of functional blocks and their uses, brightness data, light transmission and distribution, daylight control and a picture section of typical installations. A complete technical data section is appended (Key No. 186)
- Problems involved in insulating piping distribution systems are discussed in two new booklets of particular interest and practical usefulness to engineers, architects, superintendents of buildings and grounds and contractors. The layout of the route, methods of estimating steam loads, steam flow charts and tables, properties of steel pipe, properties of saturated steam and related topics are covered in "Engineering Data for Underground Steam Distribution, Section 480-2." "Typical Engineering Drawings—Section 480-3" reproduces actual drawings used in a wide variety of insulated piping installations, including a section on educational buildings. The booklets have been published by The Ric-wiL Co., Union Commerce Bldg., Cleveland 14, Ohio. (Key No. 187)
- A new device, called the Color Calibrator, has been developed to assist in the selection of colors for room decoration. It automatically picks out and harmoniously assembles as many as 6 different hues at the same time, to reveal a complete color scheme for a room or a unit. Produced by Pratt & Lambert, Inc., 75 Tonawanda St., Buffalo 7, N. Y., manufacturer of paints and varnishes, the device was designed and patented by Sterling B. McDonald, color authority. An instruction booklet to explain how the best results may be obtained accompanies the Color Calibrator, which is available at all Pratt & Lambert paint and varnish dealers throughout the United States and Canada. (Key No. 188)
- "Citrus Fruits and the Nation's Health" is the interesting title of a 40 page book published by the Florida Citrus Commission, Department of Information, 551 Fifth Ave., New York 17. The history, nutritional and dietetic aspects of citrus fruits, the use of citrus fruits in diets and complete references and glossary are presented in attractive form in this book designed for dietitians, home economists and nutrition experts. (Key No. 189)

Suppliers' News

Cochrane Corporation, 3132 N. 17th St., Philadelphia 32, Pa., announces the acquisition of substantially all of the capital stock of Liquid Conditioning Corp., Linden, N.J. The latter company, manufacturer of a complete line of equipment for the conditioning of water and other liquids, will operate as a wholly owned subsidiary of Cochrane Corporation but will continue to market its products under the trade name "Liquon."

General Slicing Machine Co., Inc., manufacturer of kitchen machines, announces change of location from 100 S. Third St., Brooklyn 11, N.Y., to Walden, N.Y.

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